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Mission Bay

ENVIRONMENTAL IMPACT REPORT

VOLUME FOUR

Draft Summary of Comments and Responses

**CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF CITY PLANNING**

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**Mission Bay
Environmental Impact Report**

VOLUME FOUR

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* Note: Certain figures and one table shown in this volume will also appear in Volumes Two or Three of the Final EIR. The figure or table numbers given above are those for the Final EIR or, in the case of Figures 1, 2 and 3, for the Draft Supplement.

XV. SUMMARY OF COMMENTS AND RESPONSES

INTRODUCTION

This document contains the summary of Comments received on the Mission Bay Draft EIR, and Responses to them. Comments are from public hearings on the Draft EIR (held September 22, October 6, October 27, and November 10, 1988) and on the Draft Supplement (held April 20, 1989), and from letters and other written materials received by the Department of City Planning during the public comment periods of August 12, 1988 to November 21, 1988 for the Draft EIR, and March 17, 1989 to April 18, 1989 for the Draft Supplement. They are presented herein by direct quotation and are edited to delete repetition and nonsubstantive material only, to correct typographical errors and similar errata, and to clarify context as necessary. A comprehensive list of persons commenting begins on p. XV.2.

The Comments and Responses section, beginning on p. XV.A.1, is organized by broad subject area, and Comments are grouped by topic within each section if more than one topic is addressed. In XV.A. Public Plans, Policies, and Permits through XV.Q. Sports Facilities, a Comment or group of Comments is followed by a Response. Cross-references to other Responses within the same section or in other sections of this document are cited as necessary to refer the reader to all information on a given subject.

Responses may include changes in, or additions to, the text of the Draft EIR. These modifications are presented in boldface type and are preceded by a dot so that they are easily discernible from the rest of the Response. A changed word or phrase is underlined, as are new sentences or paragraphs that are presented in the context of existing text. An underline is not used if all of the modification is new text.

Staff-initiated text changes and errata generally appear at the end of each section that corresponds to a chapter subject area in the Draft EIR (e.g., XV.F. Air Quality, in this document, presents staff-initiated text changes for Volume Two, VI.F. Air Quality). XV.R. Miscellaneous Staff-Initiated Text Changes presents such changes and errata for Draft EIR chapters that do not have a corresponding chapter in this document.

XV.S. Summary of Testimony Related to the Mission Bay Plan outlines, in a summary-sentence format, testimony that basically does not relate to the content or quality of the EIR, although in some instances the topics are also addressed in the EIR-content Comments. In those instances, the related Comment is responded to in the appropriate section of EIR-related Comments and, if it is related to the Mission Bay Plan as well, it is therefore included for convenience in this summary as non-EIR-content testimony. (Responses to such testimony are not required under the California Environmental Quality Act.) This section also includes a chronology of the Mission Bay planning process to date, a discussion of the development agreement process, anticipated Master Plan and zoning actions, and an overview of Mission Bay's relationship to Proposition M.

The last section of this document, XV.T., presents staff-initiated text changes for the Mission Bay Hazards Mitigation Program, Volume One.

This document will be incorporated into the Final EIR as Volume Four, Chapter XV. Summary of Comments and Responses. Text changes and additions indicated in the Responses and staff-initiated text changes will be incorporated in the appropriate volumes of the Final EIR (or, in the case of XV.T., in Volume One of the Mission Bay Hazards Mitigation Program).

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LIST OF PERSONS COMMENTING

- Gary Adams, Caltrans, District 4
- Marion Aird
- Raymond Aker, China Basin Maritime Historical Park Committee
- Mohammed Al-Kareem, Bayview Merchants Association
- Donna Amador
- James W. Augustino, Santa Fe Pacific Realty Corporation
- Barbara Bagot, San Francisco Ballpark Alliance
- John Bardis, Inner Sunset Action Committee
- Pattie Bartlett
- Judy Baston, Potrero Hill Neighborhood House
- Bob Begley, Hotel Council of San Francisco
- Ward Belding, Bay Area Rapid Transit District
- Arthur Belnick, Automobile Procurement Corporation
- Commissioner Susan J. Bierman
- Gary Binger, Association of Bay Area Governments
- Betty Boatwright, Mission Creek Harbor Association, Inc.
- Pete Bontadelli, California Department of Fish and Game
- James D. Boyd, California Air Resources Board
- Chris Brittle, Metropolitan Transportation Commission
- Bruce Burdick, South Park Improvement Association
- Mary E. Burns, San Francisco Recreation and Park Department
- Assemblyman John Burton, California State Assembly
- Rene Cazenave, San Francisco Council of Community Housing Organizations
- Arnold Chin
- Abby Cohen, Child Care Law Center
- Richard Cohn
- Zach Cowan, Mission Creek Conservancy, Sierra Club, and San Francisco Tomorrow
- Brad Curtis
- Robert D. Darragh, Dames & Moore
- Sherry Davis
- John B. deCastro, Potrero Boosters and Merchants Association
- Marcia DeHart
- Commissioner Robert S. Dick
- Babette Drefke, Potrero Boosters and Merchants Association
- Norman Dudum
- Richard Dyer
- Gene Dymek
- John Elberling, San Franciscans for Reasonable Growth
- Jimmy Estrada
- Commissioner Douglas Engmann
- Arthur Feinstein, Golden Gate Audubon Society
- Milton Feldstein, Bay Area Air Quality Management District
- Jim Firth, Potrero League of Active Neighbors and Mission Bay Clearinghouse
- John Flanagan
- Leah Forbes, San Francisco Arts Commission
- Rebecca Ford, Potrero Boosters and Merchants Association
- Dale Freeman
- James Gallagher, Peninsula Corridor Study Joint Powers Board

**XV. Summary of Comments and Responses
List of Persons Commenting**

Neil Gendel, San Francisco Group of the Sierra Club, San Francisco Tomorrow, and Mission Bay Clearinghouse	Robert M. McGee
Glenn Gollihur	Michael McGill, San Francisco Planning and Urban Research Association
Andrew Gordon, San Francisco Ballpark Alliance	Stan McGinnis, Rochester Big & Tall Clothing
Ruth Gravanis, San Franciscans for Planning Priorities and Mission Bay Clearinghouse	Brian McWilliams, Ship Clerks' Association, Local 34
Sarah M. Hallam, San Franciscans for Planning Priorities	Mision Bay Clearinghouse
M. Bruce Herron, Castle Metals	Mission Creek Conservancy
Robert Isaacson	Jack Moore, Potrero League of Active Neighbors
Tricia James, South of Market Business Association	Commissioner James B. Morales
Walter Johnson, San Francisco Labor Council	Patrick Moreira
William Anthony Johnson, California Native American Heritage Commission	Scott W. Morrical, Golden Gate Audubon Society
David Jones, San Franciscans for Reasonable Growth	Jack Morrison, San Francisco Tomorrow
Ellen Kernaghan, Potrero Boosters and Merchants Association	Richard B. Morten, San Francisco Chamber of Commerce
Leigh Kienker	Richard H. Moss, Potrero Boosters and Merchants Association
Jean Kortum, Landmarks Preservation Advisory Board	Tom Murray, Potrero League of Active Neighbors and Mission Bay Clearinghouse
Ira Kurlander, San Francisco Tomorrow	Keith Nakatani, San Francisco League of Urban Gardeners
Jerome Kuykendall, Golden Gate Bridge, Highway and Transportation District	Nancy Nederhauser, Potrero League of Active Neighbors
Don Larson, AC Transit	Tom Nolan, Peninsula Corridor Study Joint Powers Board
Merle Lawrence, Mayor's Office of Child Care Advisory Council	Dennis O'Bryant, California Division of Mines and Geology
Toby Levine, Mission Creek Conservancy	Scott O'Keefe
Toby Levy, South Park Improvement Association	James Pacheco, Casey's Office Moving & Services, Inc.
Dennis Mackenzie	Barbara Petersen
Anthony R. Manning	Susan Pultz, Metropolitan Transportation Commission
Robert Marthinsen, Mission Creek Harbor Association, Inc.	Dehnert C. Queen, Small Business Bowl
Bruce Mayfield	Jim Queen, Community Development Council

XV. Summary of Comments and Responses
List of Persons Commenting

Alan Raznick, San Franciscans for Reasonable Growth
Richard Reineccius
Norman Rolfe, San Francisco Tomorrow
Christopher Sabre
San Francisco Tomorrow
San Francisco Tomorrow, Waterfront Committee
Steve Schirle
Steven Schlner
Gary Shawley, Potrero League of Active Neighbors
Sierra Club, San Francisco Bay Chapter
Pam Sims, Housing Committee of the Bayview Committee
Bill Sloan
Arden Smith, Potrero Boosters and Merchants Association
Regina Sneed, San Francisco Tomorrow and Mission Bay Clearinghouse
Steven J. Sockolov, Rochester Big & Tall Clothing
Susan Solarz, Department of Health Services
Howard Strassner, Coalition for San Francisco Neighborhoods
James Sullivan
Stephen Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee and San Franciscans for Planning Priorities
Thomas Thompson, Associated General Contractors of California
Leonard Tom, Public Utilities Commission
William Travis, San Francisco Bay Conservation and Development Commission
Michael Vandeman
Gloria Van Winkle, Potrero Boosters and Merchants Association

COMMENTS AND RESPONSES

A. PUBLIC PLANS, POLICIES AND PERMITS

PORt OF SAN FRANCISCO

Comment

While the EIR did look at several other reports and planning publications in preparation for this EIR, I did not see specific reference to the SF Port Plan, or the S⁷ Central Waterfront plans. (Jim Firth, Mission Bay Clearinghouse)

Response

The Seaport Plan, prepared by the Metropolitan Transportation Commission and the San Francisco Bay Conservation and Development Commission (BCDC), the San Francisco Master Plan's Central Waterfront Plan, and the Port's Conceptual Maritime Master Plan for the Southern Waterfront are discussed in Volume Two of the EIR under VI.A Public Plans, Policies and Permits. Refer to Volume One, pp. II.21-II.22, and Volume Two, pp. VI.A.18-VI.A.19, for information on the Seaport Plan. See Volume One, p. II.20, and Volume Two, pp. VI.A.2-VI.A.5, for a discussion of the Central Waterfront Plan. See Volume One, p. II.21, and Volume Two, p. VI.A.18, for information on the Conceptual Maritime Master Plan for the Southern Waterfront.

Comment

On page II.21 and perhaps elsewhere, the report indicates that the area east of Third Street is designated as a "port priority use area" in the Special Area Plan. The report should indicate that the Seaport Plan and Bay Plan also designate this area for port priority uses.

. . . [O]n page II.25, the report notes that the Seaport Plan would have to be amended if either Alternative A or B were to be implemented. Actually, the Special Area Plan and the Bay Plan would have to be amended as well, and a "total design plan" may have to be prepared for the Pier 48 to 64 area. Moreover, the same paragraph implies that Alternatives A and B would require removal of the priority use designation from the area east of Third Street entirely. However, because both alternatives

would continue the marine terminal and port-related uses on Piers 48 and 50 and in the vicinity, the port priority use designation should continue over those areas. . . .

Pages VI.A.16 and 19 again should indicate that the Special Area Plan, the Bay Plan, and the Seaport Plan all reserve the property east of Third Street for port uses. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

The EIR indicates that the San Francisco Waterfront Special Area Plan designates the area east of Third Street as a Port-Priority Use Area and that the Seaport Plan designates the piers and Project Area east of Third Street for maritime use (see Volume One, p. II.21, and Volume Two, p. VI.A.19). The EIR discusses goals, objectives and policies of the San Francisco Bay Plan, but does not specifically address its designation for the area east of Third Street. The following is therefore added to the end of the third complete paragraph on p. VI.A.21 of Volume Two:

- The Bay Plan designates the area east of Third Street in Mission Bay for port uses.**

Since publication of the Draft EIR, the Seaport Plan has been amended to address a proposed land exchange between the project sponsor and the Port that would allow development of a new container terminal between Piers 70 and 80, adjacent to the existing San Francisco container terminals, rather than at Mission Bay. The following is added at the end of p. VI.A.19 of Volume Two, beginning with a new paragraph:

- On March 16, 1989, BCDC approved an amendment to the Seaport Plan which included provisions related to a land exchange between the project sponsor and the Port. It would allow, pursuant to certain conditions, development of a new marine terminal between Piers 70 and 80, adjacent to the existing San Francisco container terminals, rather than at Piers 52 to 64 in Mission Bay. The amendment of the Seaport Plan essentially amends the Special Area Plan for the San Francisco Waterfront and the Bay Plan as well. However, some formal conforming amendments to those documents may also be required.**

Until certain conditions are satisfied, the Seaport Plan amendment retains the designation of Piers 52 to 64 as a Near-Term marine terminal site and the area east of Third Street as a Port-Priority Use Area. The amendment allows deletion of those designations from the Seaport Plan without a full plan update if the following two conditions are met: 1) ownership of the former Western Pacific property at Warm Water Cove (between Piers 70 and 80) is transferred from SFP to the Port; and 2) the Port and City develop a strategy, to be reviewed and approved by BCDC, to ensure that Port-Priority Use Areas in the Pier 70-80 area are reserved for port purposes consistent with the Seaport Plan and that the non-port-owned areas needed for marine terminal use in the Pier 70-80 area are available to the Port. The Seaport Plan amendment allows the port-priority use designation to be deleted from a portion of the Project Area, the area between Third Street and Illinois Street from Mission Rock Street to Mariposa Street, upon BCDC approval of the strategy developed by the Port and the City.

The amendment lists a number of possible strategies to ensure that all Port-Priority Use Areas are reserved and that non-port-owned areas are available. These include: 1) commitment to acquire key parcels; 2) adoption and implementation of a Port Commission policy to limit development within port boundaries to that consistent with the Seaport Plan; 3) adoption and implementation of Port Commission and City Planning Commission procedures to coordinate decisions to ensure that development in areas outside port boundaries but within the Seaport Plan's Port-Priority Use Areas is consistent with the Seaport Plan; and/or 4) changes in current City land use controls to ensure that future development and uses within Port-Priority Use Areas are fully consistent with the port policies of the San Francisco Bay Plan, San Francisco Waterfront Special Area Plan, and the Seaport Plan.

The Seaport Plan amendment reserves three areas in or adjacent to the Project Area for port-priority use under all circumstances. These are: 1) an approximately 6.5-acre area, but not less than a six-acre area, adjacent to Piers 48 and 50 to support existing and future marine terminal and ancillary port uses at

those piers; 2) the shoreline immediately bayward of China Basin Street currently used or developable for port-related purposes, such as ship repair, commercial fishing or public access; and 3) an area along China Basin Street to accommodate vehicular and rail traffic necessary for continued port-related activities at Piers 48 and 50.

The following additional changes address the Seaport Plan amendment as appropriate.

The last sentence in the last paragraph on p. VI.A.53 of Volume Two is revised and two sentences are added after it, as follows:

- The City, the Port and BCDC/MTC have designated that area for expansion of maritime uses and as backland/2/ for a Near-Term marine terminal development site (see p. VI.A.19). However, a 1989 amendment to the Seaport Plan (which essentially amends the Bay Plan as well) would allow port-related development originally planned for Piers 52-64 in Mission Bay to be shifted to the south to the vicinity of Piers 70 to 80 upon fulfillment of certain conditions. Those conditions include a land exchange between the project sponsor and the Port (see the discussion of the Seaport Plan amendment beginning on p. VI.A.19 [in this document, see pp. XV.A.1-XV.A.2]).

The last sentence in the second paragraph on p. VI.A.54 of Volume Two is deleted and replaced with the following:

- That is the type of exchange that is included in the 1989 Seaport Plan amendment related to the Pier 52-64 Near-Term site and the area near Piers 70 and 80 (see the discussion of the Seaport Plan amendment beginning on p. VI.A.19 [in this document, see pp. XV.A.1- XV.A.2]).

The third paragraph on p. VI.A.54 of Volume Two is revised to state:

- Privately owned parcels between Piers 70 and 80 now owned by SFP and other parties are available for transfer of Near-Term development sites.^{/84/} Although such a transfer between Piers 52 to 64 and the area between Piers 70 and 80 has been addressed in the 1989 Seaport Plan amendment, it has not been assumed in this EIR that the exchange would occur because the conditions of that exchange have not yet been satisfied.

A new paragraph is added after the third paragraph on p. VI.A.54:

- Although the Seaport Plan has been amended, the container terminal options of the Port, as presented in the 1981 Conceptual Maritime Master Plan for the Southern Waterfront, have not changed. That plan therefore continues to include the policy that would allow potential development of Piers 48 to 64 (referred to as the Mission Rock Container Terminal) as a marine container terminal requiring backland east of Third Street. (The Mission Rock Container Terminal described in port plans includes Piers 48 to 50, designated in the Seaport Plan as active terminal sites, and Piers 52 to 64, designated as Near-Term development sites.) The potential effects of the EIR Alternatives in light of these marine terminal policy designations are described below.

The following replaces the first paragraph under the heading "Alternative A" on p. VI.A.55 of Volume Two, and two new paragraphs are added to follow this. Most of the first two paragraphs on p. VI.A.56 is incorporated into this new text. The first two paragraphs on p. VI.A.56 are therefore deleted from that page.

- Alternative A would not respond to port plans and policies to expand maritime activities and develop the Mission Rock Container Terminal adjacent to the Mission Bay Project Area as presented in the Conceptual Maritime Master Plan for the Southern Waterfront (Maritime Master Plan). The 6.5 acres planned for port-related uses east of Third Street would be insufficient to support a marine container terminal, and the predominant land use of housing and open space would be generally incompatible with an adjacent terminal operation. The 17 acres of open space at Pier 62 in Alternative A would include land designated as part of the container terminal in the Maritime Master Plan. Most of the land designated as open space for Agua Vista Park in the Maritime Master Plan would be S/LI/RD space in this Alternative; that proposed use therefore would not be consistent with the port's policy to expand that open space.

Uses proposed east of Third Street under Alternative A also would be inconsistent with existing Seaport Plan designations of Piers 52 to 64 as a Near-Term marine container terminal development site and the area east of Third Street as a Port-Priority Use Area.

However, if conditions specified in the 1989 Seaport Plan amendment were fulfilled, those designations would be removed, reducing conflicts between Alternative A and the Seaport Plan (see the discussion of the Seaport Plan amendment beginning on p. VLA.19). The open space area adjacent to Piers 48 and 50 west of China Basin Street would not be consistent with the 6.0- to 6.5-acre port-priority area called for in the 1989 amendment.

The Seaport Plan also includes transportation policies for port property east of Third Street. Alternative A would maintain rail access to port property at existing levels, but would remove excess tracks east and west of Third Street. However, if the Port were to develop a marine terminal, rail tracks would have to be rebuilt to serve the new terminal. Thus, Alternative A would not respond to the Seaport Plan's policy to maintain freight access to marine terminal sites. VI.E. Transportation, pp. VI.E.20-VI.E.25, discusses existing rail freight service in the Project Area.

The third sentence in the first paragraph under the heading "Alternative B" on p. VI.A.56 is deleted.

The first sentence in the second paragraph under this heading is revised to state:

- As with Alternative A, Alternative B would preclude development of the Mission Rock Container Terminal as called for in the Conceptual Maritime Master Plan.

The following paragraph is added before the first full paragraph on p. VI.A.57 of Volume Two:

- Uses proposed east of Third Street under Alternative B would be inconsistent with existing Seaport Plan designations of Piers 52 to 64 as a near-term marine container terminal development site and the area east of Third Street as a Port-Priority Use Area. However, if conditions specified in the 1989 Seaport Plan amendment were fulfilled, those designations would be removed, reducing conflicts between Alternative B and the Seaport Plan (see the discussion of the Seaport Plan amendment beginning on p. VLA.19 [in this document, see pp. XV.A.1-XV.A.2]). The wetland and residential uses adjacent to Piers 48 and 50, west of China Basin Street, would not be consistent with the 6.0- to 6.5-acre port-priority area called for in the 1989 amendment.

XV. Summary of Comments and Responses
A. Public Plans, Policies and Permits

The last sentence in the first paragraph under the heading "Alternative N" on p. VI.A.57 is revised to state:

- Existing rail access and tracks would remain and could serve a future container terminal adjacent to the Project Area as still indicated in the Seaport Plan.

The following is added to the first full paragraph on p. VI.A.58 of Volume Two, after the first sentence:

- See the discussion of the 1989 Seaport Plan amendment beginning on p. VI.A.19 (in this document, see pp. XV.A.1-XV.A.2). That amendment would reduce potential conflicts between the Mission Bay Alternatives and the Seaport Plan and Bay Plan.

The second paragraph under the heading "Alternative A," also on p. VI.A.58, is revised and expanded, as follows:

- Most of the land east of Third Street is currently designated for port-priority use in the BCDC/MTC Seaport Plan, the Bay Plan and the San Francisco Waterfront Special Area Plan. Alternative A would not be consistent with that port-priority use designation because uses proposed east of Third Street (residential, open space and S/LI/RD) are not allowed under that designation. However, the 1989 amendment to the Seaport Plan (which essentially amends the Bay Plan and Special Area Plan as well) would allow the deletion of the designation of Piers 52-64 as a Near-Term marine terminal site and the area east of Third Street as a Port-Priority Use Area upon fulfillment of certain conditions, including a land exchange between the project sponsor and the Port (see the discussion of the Seaport Plan amendment beginning on p. VI.A.19 [in this document, see pp. XV.A.1-XV.A.2]).

The last sentence of the first paragraph on p. VI.A.59 of Volume Two is deleted.

The second sentence under the heading "Alternative B" on p. VI.A.59 is revised and a new sentence is added after it, as follows:

- As with Alternative A, housing and S/LI/RD uses under Alternative B would be inconsistent with BCDC's existing designation. However, the 1989 amendment to the Seaport Plan (which essentially amends the Bay Plan and Special Area Plan as well) would allow the deletion of the designation of Piers 52 to 64 as a Near-Term marine

terminal site and the area east of Third Street as a Port-Priority Use Area upon fulfillment of certain conditions, including a land exchange between the project sponsor and the Port (see the discussion of the Seaport Plan amendment beginning on p. VI.A.19 [in this document, see pp. XV.A.1-XV.A.2]).

A new sentence is added to the summary paragraph on p. II.20 of Volume One. This sentence, shown below, precedes the last sentence of the paragraph:

- However, an amendment has been made to the Seaport Plan that would allow development of a new marine terminal adjacent to the existing San Francisco container terminals rather than at Mission Bay, provided certain conditions were met.

This sentence is also added to Volume One, p. I.2, after the first full sentence in the left-hand column, top of the page.

The following paragraphs are added after the second paragraph in the left-hand column on p. II.21 of Volume One:

- In March, 1989, BCDC approved an amendment to the Seaport Plan to allow development of a new marine terminal between Piers 70 and 80, adjacent to the existing San Francisco container terminals, rather than at Piers 52 to 64 in Mission Bay. That change is conditional upon the transfer of ownership of property between Piers 70 and 80 from Santa Fe Pacific Realty Corporation to the Port to enable development of the marine terminal. Additionally, the Port and the City would be required to develop a strategy (to be approved by BCDC) to ensure that Port Priority Use areas in the Pier 70-80 area are reserved for port purposes and that needed areas not owned by the Port are available. The Seaport Plan amendment allows the port priority use designation to be deleted from a portion of the Project Area (between Third and Illinois Streets from Mission Rock to Mariposa Streets) upon BCDC approval of the strategy developed by the Port and City.

Alternatives A and B would not be consistent with existing Seaport Plan designations for the Project Area, as discussed below. However, should the proposed land exchange take place and the port priority use strategy for the Pier 70-80 area be approved, inconsistencies between Alternatives A and B and the Seaport Plan would largely be

removed. Non-maritime uses in Alternatives A and B would still conflict with a 6- to 6.5-acre port priority area reserved by the Seaport Plan amendment to support marine-related activities at Piers 48 and 50.

The last paragraph under the heading "Port of San Francisco," in the left-hand column on p. II.22 of Volume One, is deleted.

The caption for Figure II.20 on p. II.23 of Volume One is deleted and replaced with the following:

- Piers 52 to 64 currently are designated as a potential site for a marine terminal in the regional Seaport Plan. However, a 1989 amendment to that plan would allow development of a new container terminal between Piers 70 and 80 instead, adjacent to the existing container terminals, provided that a land exchange between the project sponsor and the Port took place and that certain other conditions were fulfilled.

Also, this figure is revised to show the possible relocation of the Near-Term designated container terminal site at Piers 52 to 64 to the south, rather than Piers 48 to 64 as originally shown.

Text related to regional, state and federal approvals in Volume Two, Chapter V. The EIR Alternatives and Approval Process is also changed to reflect the Seaport Plan amendment. The second paragraph on p. V.42 is deleted and replaced with the following:

- Alternatives A and B would require the removal of the Seaport Plan's designation of Piers 52 to 64 as a Near-Term marine container terminal site and the area east of Third Street as a Port Priority Use Area. Those modifications would be allowed under a 1989 Seaport Plan amendment, provided that a land exchange between SFP and the Port took place and that BCDC approved a strategy developed by the City and Port to ensure that necessary areas in the vicinity of Piers 70 to 80 are available for port use (see the Seaport Plan discussion beginning on p. VI.A.18).

On p. V.44 of Volume Two, note /8/, referenced in the deleted second paragraph on p. V.42, is deleted also.

The second sentence of the first paragraph under "Regional, State, & Federal Approvals," on p. II.25 of Volume One, right-hand column, is

revised and a new sentence is added, as follows:

- Alternatives A and B would require the removal of the Seaport Plan's designation of Piers 52 to 64 as a near-term marine container terminal site and the area east of Third Street as a Port Priority Use Area. Those modifications would be allowed under a 1989 Seaport Plan amendment, provided that a land exchange between Santa Fe Pacific Realty Corporation and the Port took place and that BCDC approved a strategy developed by the City and Port to ensure that necessary areas in the vicinity of Piers 70 to 80 are available for port use.

Comment

More generally, . . . [Volume One] should explain the Commission's basis for establishing priority use areas along the shoreline, which is done in Volume II. In order to accommodate the Bay Area's growing population and economy and to continue to permit uses and development that require a waterfront location, the Commission has reserved sufficient land in those areas most suitable for water-related uses. In this way, these water-dependent uses can be accommodated largely on existing land, thus avoiding unnecessary filling of the Bay. Because Alternatives A and B of the Mission Bay project would require the deletion of a port priority use area, there would be greater likelihood that fill in the Bay would be needed to meet the demand for marine terminal facilities unless a suitable replacement area is found. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

The purpose of Volume One, Highlights & Conclusions, is to provide a broad overview of the project Alternatives and a comparison of their impacts. It contains the information thought to be of most interest to the general public, and necessarily must leave out much of the detailed background information of the type discussed in the Comment. Volume One, on pp. II.20-II.22, discusses the designation of the area east of Third Street for port-related uses in the City's Central Waterfront Plan, the port's Conceptual Maritime Master Plan for the Southern Waterfront, and the Seaport Plan, and refers the reader to more detailed information, including BCDC's basis for establishing port-priority uses along the shoreline, in Volume Two.

The following paragraph is added after the second paragraph on p. VI.A.20 of Volume Two to include specifically the information provided in the Comment:

- In order to accommodate the Bay Area's growing population and economy and to continue to permit uses and development that require a waterfront location, BCDC has reserved sufficient land in those areas ("Port-priority" areas) most suitable for water-related uses. In that way, water-dependent uses can be accommodated largely on existing land, thus avoiding unnecessary filling of the Bay.

Comment

The discussion about the Commission's policies and potential actions on the Mission Bay project on page VI.A.58 (or perhaps elsewhere in the report) should note that the Seaport Plan states: "In determining whether the amount of Bay fill is the minimum necessary for a proposed marine terminal development, BCDC shall consider any actions of the responsible local government and port that may have reduced the amount of existing dry land available for such development...." Under this policy, the Commission can deny a marine terminal project involving Bay fill if a local government or port ... reduces or removes a potential terminal site from the region. Therefore, unless an alternative site is found along the San Francisco waterfront that is equally suitable and would require the same or less fill, the ability of the Port to fill the Bay elsewhere may be limited. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

The following is added after the first full paragraph on p. VI.A.58 of Volume Two:

- BCDC would consider its policies on Bay fill in its review of any marine terminal development proposal which could occur under the land exchange addressed in the 1989 amendment to the Seaport Plan (see the discussion of the Seaport Plan amendment beginning on p. VI.A.19 [in this document, see pp. XV.A.1-XV.A.2]). The Seaport Plan states that, "In determining whether the amount of fill is the minimum necessary for a proposed marine terminal development, BCDC shall consider any actions of the

responsible local government and port that may have reduced the amount of existing dry land available for such development..."/86a/ Under this policy, BCDC can deny a marine terminal project involving Bay fill if a local government has reduced or removed a potential terminal site from the region. The ability of the Port to fill the Bay elsewhere may be limited unless the proposed replacement site is equally suitable and would require the same or less fill. BCDC has approved the proposed land exchange in concept, but would need to review and approve any specific design proposals developed in the future. BCDC's review would be based on its policies on fill as well as other BCDC concerns.

A new note, /86a/, is added to follow note /86/ on p. VI.A.79 of Volume Two:

- **Metropolitan Transportation Commission and San Francisco Bay Conservation and Development Commission, San Francisco Bay Area Seaport Plan, 1982.**

Comment

On page VI.A.54, the DEIR indicates that a consolidation of container terminals between Piers 70 and 80 would free Piers 48 and 50 for "possible development of non-container terminal." However, these piers are presently used for break bulk and neo bulk cargoes, so the report should refer to their continued use as non-container terminals. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

On p. VI.A.54 of Volume Two, the first paragraph is deleted and replaced with the following:

- Concentrating future container terminal development between Piers 70 and 80, adjacent to existing San Francisco container terminals at Piers 80 to 96, if approved by the Port and MTC/BCDC, would allow the continued use of Piers 48 to 50 as non-container terminals. The 1989 Seaport Plan amendment specifies that a 6.0- to 6.5-acre area adjacent to Piers 48 and 50 be reserved to support existing and future marine terminal and ancillary port uses at those piers.

On p. VI.A.79 of Volume Two, note /83/, referenced in the deleted first paragraph on p. VI.A.54, is deleted also.

Comment

On page VI.A.59, the DEIR notes that Alternative A would provide 6.5 acres of land for port-related uses. Why not more, or less acreage for such uses? To what types of port-related uses would this area be put? Would this area be suitable for movement of cargo, or would [it] serve other types of port purposes? In other words, what significance does this 6.5-acre area have? (William Travis, San Francisco Bay Conservation and Development Commission)

Response

Alternative A represents a mixed-use development, which combines residential and commercial uses, similar to the land use program contained in the Environmental Evaluation Application submitted to the City by the project sponsor and to the program described in the Mayor's letter and the Mission Bay Plan, Proposal for Citizen Review. The 6.5 acres of port-related uses in Alternative A would provide land to support existing maritime uses in the Project Area, but would not be sufficient to support development of a container terminal at Mission Bay, as noted on p. VI.A.59 of Volume Two. The port-related area would likely be used for storage in conjunction with maritime activities on the piers adjacent to the Project Area. The area is currently owned by the Port.

The first sentence on p. VI.A.59 of Volume Two is revised to state:

- Alternative A would provide 6.5 acres between Piers 50 and 54 for port-related uses, which would continue to provide support for existing maritime uses on Piers 48 and 50, but would not be sufficient to support a container terminal at Piers 48 to 50.

BCDC REQUIREMENTS

Comment

Page [II].25 discusses some of the proposed improvements that would need BCDC authorization, including dredging activities and

development within the shoreline band. That list should be revised to include the Owens Street Bridge over Mission Creek proposed in both Alternative A and B. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

On p. II.25 of Volume One, the first sentence of the first paragraph under "Regional, State, & Federal Approvals" is revised, as follows:

- The Bay Conservation and Development Commission would require permits for dredging activities in the channel in Alternative A, any fill required for construction of an Owens Street Bridge or bank treatments for China Basin Channel in Alternatives A and B, and any development within the 100-foot shoreline band.

On p. V.42 of Volume Two, Chapter V. The EIR Alternatives and Approval Process, the first paragraph is deleted and replaced with the following:

- The Bay Conservation and Development Commission (BCDC) would require permits for dredging activities in the channel in Alternative A, any fill required for construction of an Owens Street Bridge or bank treatments for China Basin Channel in Alternatives A and B, and any development within the 100-foot shoreline band for public access to the waterfront and China Basin Channel.

The following sentence is added to the end of the first paragraph under the heading "Alternative A" on p. VI.A.58 of Volume Two:

- BCDC also would require a permit for the Owens Street Bridge over China Basin Channel, which would likely involve some filling along the channel banks.

The following sentence is added to the end of the paragraph under the heading "Alternative B" on p. VI.A.59 of Volume Two:

- BCDC also would have permit jurisdiction over the Owens Street Bridge over China Basin Channel, which would likely involve some filling along the channel banks.

The following is added at the end of the first paragraph under "Bay Conservation and Development Commission" on p. VI.A.66 of Volume Two:

- BCDC also would have permit jurisdiction over the proposed Owens Street Bridge over China Basin Channel in Alternatives A and B.

Comment

In the discussion of the Commission on page VI.A.20, the report states that the Bay and its tidelands have been reduced by more than 75%. While the Bay's wetlands have been reduced by such an amount, the size of the open Bay has actually been reduced by about one-third. Also, the next page notes that non-water-oriented uses are not allowed on fill "such as piers." It would be more accurate to say that such uses are not allowed on any type of fill, which includes earth or other solid materials, pile-supported or cantilevered structures, permanently moored, floating structures or vessels, or replacement piers or other pile-supported structures. Also on page VI.A.21, the discussion of public access should be re-phrased so that it indicates that "BCDC in the past has often required that the width of the public access strip along the shoreline of the project be equal to or greater than the height of any adjacent structure. However, the amount and design of public access areas are determined on a case-by-case basis." The DEIR should discuss whether any fill for riprap, shoreline repair, or public access is proposed. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

The EIR describes public access to China Basin Channel and the various edge treatments proposed under the three Alternatives (see Table V.3 on p. V.20 of Volume Two, Chapter V, The EIR Alternatives and Approval Process).

In response to the other concerns expressed in the Comment, the following changes are made.

On p. VI.A.20 of Volume Two, the first sentence of the second paragraph is changed to state:

- The state McAteer-Petris Act, preceding most of the major federal and state environmental statutes of the early 1970's, created the BCDC in 1965 and authorized preparation of

the San Francisco Bay Plan to respond to piecemeal filling of the Bay that had reduced the size of the open Bay by about one-third and the Bay's wetlands by more than 75%./36/

The last sentence on p. VI.A.20 of Volume Two, which continues on p. VI.A.21, is revised to state:

- Under the Act, housing and office space, two uses for which large areas of the Bay were filled in the past, are not water-oriented uses and are not allowed on any type of fill, including earth or other solid materials, pile-supported or cantilevered structures, permanently moored, floating structures or vessels, or replacement piers or other pile-supported structures.

On p. VI.A.21 of Volume Two, the last sentence of the second full paragraph is revised and a new sentence is added after it, as follows:

- As a guideline for how much public access area should be provided, BCDC in the past has often required that the width of the public access strip along the shoreline of the project be equal to or greater than the height of any adjacent structure. However, the amount and design of public access areas are determined on a case-by-case basis.

Comment

Under Alternative N is a reference [on page VI.M.13] to concrete rubble which would remain along the bank. Since some of this rubble is the subject of a BCDC enforcement case against the project sponsor, the possibility of its removal should be mentioned. (Toby Levine, Mission Creek Conservancy)

Response

The concrete rubble mentioned in the Comment is on port-owned property, not that of Santa Fe Pacific Realty Corporation (SFP). There is no BCDC enforcement action pending against the project sponsor. BCDC is aware of the situation, although it does not consider the rubble a high-priority item and feels that it would be difficult to develop the case necessary to enforce removal of the rubble./1/ BCDC will likely wait to see if the channel is cleaned up as part of the Mission Bay project, should it be approved, before taking further action.

The first sentence of the third full paragraph on p. VI.M.13 of Volume Two, VI.M. Vegetation and Wildlife, is revised to add a reference mark for note /24j/, as follows:

- **The shoreline of China Basin Channel would remain a mix of existing bank conditions (i.e., earthen with vegetation) and concrete rubble that would preserve existing shorebird feeding habitat along the channel./24j/**

A new note, /24j/, is added on p. VI.M.27 of Volume Two:

- **/24j/ Some of the concrete rubble on port property is the subject of a BCDC enforcement action and could potentially be removed as a result of that case; this is not a high priority for BCDC. Diane Penny, Permit Analyst, San Francisco Bay Conservation and Development Commission, telephone conversation, May 18, 1989.**

PUBLIC ACCESS POLICIES

Comment

On page VI.A.57, the DEIR suggests that no public access to the Bay would be developed under Alternative N. Alternative N assumes a gradual development of the Mission Bay area consistent with its present zoning. Thus, we can expect that portions of the shoreline would be developed over time for port and port-related uses. To meet our policies on public access, it is likely that such waterfront development would include pockets of public access where it would be safe and would not interfere with port uses. Numerous examples of such public access areas exist along the San Francisco waterfront. Therefore, the DEIR should be revised accordingly. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

On p. VI.A.57 of Volume Two, the first sentence of the third full paragraph is revised and a new sentence is added after it, as follows:

- **No major public open space east of Third Street would be expected to be developed under this Alternative. However, to meet its policies on public access, the Bay Conservation and Development Commission (BCDC) could require future uses to include public access where it would be safe and would not interfere with port use.**

GENERAL

Comment

The EIR's discussion of applicable plans and policies is also deficient in a number of respects. Two major legal determinants of the development are the effect of federal and state laws and regulations affecting cleanup of the hazardous waste on the project site, and the public trust. . . .

As to the public trust, the EIR largely ignored major issues. Release of the public trust in some of the property within the project was discussed as no more than a required "approval." (II.25-26.) But this is not merely a process, it is a substantive requirement. The EIR may not simply assume that all approvals will be granted. What areas are subject to the public trust now? Are areas owned by the project sponsor subject to the public trust? Their history would indicate that they are, but this question is not addressed. (VI.A.28.) What are the terms of that trust? What is the effect of the public trust on proposed uses? What is the effect on title of trying to change the use of the project sponsor's land from trust uses to other uses?

Subsequently the EIR stated that the State Lands Commission is studying what parcels are subject to the public trust (VI.A.62), but does not say in what areas. Is the State Lands Commission studying the entire site, or only Port lands? In either case, its conclusion will be a major determinant of any development program. Responsible planning should therefore come after the Commission's determination is made. At the very least, the EIR must address the issue in greater detail. Interestingly, the EIR states that there could be no exchange of public trust lands if any public trust use were still possible. (VI.A.28.) Since open space and recreational uses are virtually always possible, it appears that no exchange is possible. The assumption on page VI.A.54 is therefore proper and necessary, but is inconsistent with the statement on page VI.A.62, which sets out a different test for exchange. (Zach Cowan, Mission Creek Conservancy, Sierra Club, San Francisco Tomorrow)

Response

A summary of federal, state and local regulations affecting cleanup of potential hazardous waste deposits in the Project Area is included in Volume Three, Appendix L, pp. XIV.L.1-XIV.L.9. (See also XV.L. Hazardous Wastes, p. XV.L.18 [three Responses].) Additional information regarding the public trust issue is provided below.

The entire Project Area is being evaluated with regard to possible public trust interests. The precise extent and location of the public trust interests within the Project Area have not yet been defined. There are ongoing discussions on that matter between the City, SFP, and the State Lands Commission. The EIR should, in fact, assume that all approvals are granted so that all of the potential environmental impacts of the Alternatives are analyzed. The issue of whether a land exchange would be permitted if any public trust use were still possible is a legal, rather than an environmental, issue and does not require analysis for the purposes of environmental review. By not assuming in the EIR that such a land exchange would occur, the analysis reflects a conservative (high-end impact) scenario of potential development associated with the Mission Bay project.

On p. V.42 of Volume Two, Chapter V. The EIR Alternatives and Approval Process, the fourth sentence of the fourth paragraph under "Regional, State, and Federal Approvals" is revised to state:

- **A recent amendment to the Burton Act by the Legislature has, among other things, enabled the Port of San Francisco to enter into land exchanges for land of equal or greater value when certain conditions have been met.**

Comment

The EIR also fails to evaluate any of the alternatives in the context of the eight Proposition M priority policies. While the EIR mentions the existence of these policies, it gives short shrift to the requirements that the development be consistent with them, and does not address apparent inconsistencies with specific priority policies, in particular, protection of affordable housing, discouragement of commuter automobiles and protection of industrial and service land uses from commercial office development. (VI.A.13.) (Zach Cowan, Mission Creek Conservancy, Sierra Club, San Francisco Tomorrow)

Response

On p. VI.A.13 of Volume Two, the EIR identifies the eight Proposition M Priority Policies and indicates that the City is required to find that the

proposed project is consistent with the Priority Policies before approval. The City Planning Commission and Board of Supervisors, in their decisions regarding project approval or disapproval, would make the determination regarding the project's conformance with the Priority Policies. Those decisions would be based on environmental considerations, as well as social, economic and other circumstances of the project that are outside the scope of an EIR.

Comment

The EIR assumes that the project would proceed under an exemption from Proposition M office square footage limits. (VI.A.52.) While it may be reasonable to assume some degree of planning flexibility (i.e., wholesale changes to the Central Waterfront Plan) this assumption appears questionable, and calls into question the firmness of virtually every plan over which the City has any control. Rather than being minor obstacles to a foreordained development, existing plans and policies are, and should be treated as, the basis for future development. The EIR should consider development scenarios not involving an exemption for Mission Bay office development. (Zach Cowan, Mission Creek Conservancy, Sierra Club, San Francisco Tomorrow)

Response

The EIR assumes that the project would receive an exemption from the Proposition M annual office space limit in order to provide for the fastest likely market-driven rate of development and, therefore, a conservative analysis of impacts, i.e., it assumes that the full effects of Mission Bay office development would occur by build-out/2020 (see Volume Two, p. VI.A.52). If Mission Bay were not exempted from Proposition M limits, development of office space and housing (which would be linked) would proceed more slowly; the associated impacts identified in the EIR would be less intensive, as they would occur over a longer period of time. The EIR addresses the various Alternatives' relationships with applicable plans and policies. Variant 11 (EIR Hearing Proposal), submitted by a coalition of citizens' groups, has been added to the EIR analysis. That variant includes no, or limited, office development and would not require an exemption from the Proposition M office space limit. (Variant 11 is described in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.)

NOTES - Public Plans, Policies and Permits

/1/ Diane Penny, Permit Analyst, San Francisco Bay Conservation and Development Commission, telephone conversation, May 18, 1989.

STAFF-INITIATED TEXT CHANGES FOR PUBLIC PLANS, POLICIES AND PERMITS

The following staff-initiated revisions are made to the Public Plans, Policies and Permits subchapters in Volumes One and Two of the Mission Bay Draft EIR.

Volume One - Chapter II. Highlights & Conclusions (Public Plans & Policies)

On p. II.21, the phrase "relatively autonomous" is deleted from the first sentence in the first paragraph, left-hand column. As revised, the sentence states:

- Reflecting historic transportation and development patterns, most of the Project Area east of Third Street is under the jurisdiction of the Port of San Francisco, a city agency governed by an appointed Port Commission.

The third sentence in this paragraph is revised to state:

- Relevant port plans include the Port's Conceptual Maritime Master Plan for the Southern Waterfront and the regional Seaport Plan.

The following is added to the end of the first paragraph, left-hand column, on p. II.21:

- Land use designations for port property contained in a formal plan for Mission Bay would require approval by the San Francisco Port Commission.

The caption for Figure II.18, on p. II.21, is revised to state:

- Policies and objectives for two of the Central Waterfront Plan's six subareas, China Basin and Central Basin, are specific to Mission Bay development. The Port of San Francisco has jurisdiction over the area east of Third Street; the San Francisco Bay Conservation and Development Commission (BCDC) considers that area a Port Priority Use Area.

Volume Two - VI.A. Public Plans, Policies and Permits

The following text is added before the third sentence in the paragraph following "Environmental Protection Element" on p. VI.A.12:

- Objective (8), to "ensure the protection of plant and animal life in the city . . ." contains three key policies. These three policies are as follows: 1) The City will cooperate with and support the California Department of Fish and Game in animal protection; 2) the City will protect habitats of plant and animal species that require a relatively natural environment; and 3) the City will protect rare and endangered species.

The third, fourth and sixth sentences in the paragraph under "Port of San Francisco" on p. VI.A.16 are revised, and two new sentences are added between the fifth and sixth sentences. As revised, the sentences state:

- Under the Act, the Port of San Francisco has power to manage, operate and administer port lands in matters of maritime affairs, consistent with public trust restrictions established by the SLC, the City Charter, the Transfer Agreement, and local and regional waterfront plans. The Port works closely with the Department of City Planning, other City agencies and the Mayor's office. The Port's property includes approximately 7.5 linear miles of waterfront and adjacent seawall lots. Port operations include container, break bulk, passenger, and other terminal operations, fishing, and ship repair. Approval by the Port Commission is required for any uses on land under its jurisdiction. All of the Port's property in the Mission Bay Project Area is included in the San Francisco Bay Conservation and Development Commission's (BCDC) Port Priority Use Area, as designated in its San Francisco Special Area Plan No. 1.

The third sentence under "Conceptual Maritime Master Plan" on p. VI.A.18 is deleted and replaced with the following:

- The plan is intended to provide for maintenance of the Port's share of container cargo throughput for the region and improvement of rail service to the Southern Waterfront. The Conceptual Maritime Master Plan predates the Metropolitan Transportation Commission (MTC)/BCDC Seaport Plan and its amendments (discussed below).

XV. Summary of Comments and Responses
A. Public Plans, Policies and Permits

The second item in the listing on the top of p. VI.A.19 is revised, as follows:

- Provide for the efficient use of finite physical and fiscal resources in developing and operating marine terminals by identifying sites with good transportation access and adequate backland to serve terminals that would not require unnecessary filling of the Bay.

The last sentence in the first full paragraph on p. VI.A.19 is deleted.

The second sentence in the second complete paragraph on p. VI.A.19 is revised to state:

- Within the Port Priority Area, the Seaport Plan identifies Piers 48 and 50 (Mission Rock Terminal) as Active Terminal Sites (existing marine terminal facilities that are expected to remain active for the foreseeable future), and Piers 52 to 64 (Site 44A) adjacent to the Mission Bay Project Area as Near-Term Development Sites (a shoreline site best suited for marine terminal development).

The third sentence in the second complete paragraph on p. VI.A.19 is deleted.

The fourth and fifth sentences in the paragraph under "Current Capital Improvement Programs" on p. VI.A.20 are changed to state:

- An intermodal container transfer facility has been constructed as part of the plan that allows for the direct transfer of cargo between ships and trains without intermediate use of highway vehicles. The Port has installed two 100-foot gauge container cranes and associated yard improvements at Pier 80, and gate and yard improvements at Piers 94 to 96./33/

The first sentence in the paragraph under "San Francisco Bay Area Seaport Plan" on p. VI.A.23 is revised to state:

- As noted above on p. VI.A.18, BCDC also is co-author, with the Metropolitan Transportation Commission (MTC), of the Seaport Plan, which guides Port development, maritime development of Port property and surface/water transportation needs of the Bay Area.

The following sentence is added to the end of the entry under "Alternative N" for "General Objectives, Land Use" in Table VI.A.1 on p. VI.A.35:

- (For analysis of residential uses in Alternative N, see p. VII.1.)

In Table VI.A.1, p. VI.A.37, Objectives 1, 2 and 3 under "China Basin Subarea" in the "Objectives and Policies" column are changed to, respectively:

- Objective 15
- Objective 16
- Objective 17

On p. VI.A.38, Objectives 1, 2 and 3 under "Central Basin Subarea" are changed to, respectively:

- Objective 19
- Objective 20
- Objective 21

Objective 1 under "Showplace Square Subarea" is changed to:

- Objective 11

Also on p. VI.A.38, the entry under "Alternative A" for "Central Basin Subarea, Objective 3" is revised to state:

- Development of the Project Area would not conflict with the objective, unless the Near-Term marine terminal designation at Piers 52-64 is shifted to the Warm Water Cove area per the 1989 Seaport Plan amendment. A marine terminal at Warm Water Cove would reduce or eliminate recreation areas there.

The entry under "Alternative N" for "Central Basin Subarea, Objective 3" in Table VI.A.1 on p. VI.A.38 is deleted and replaced with the following:

- Development of the Project Area would not conflict with this objective.

On p. VI.A.39, Objective 2, at the top of the column, is changed to:

- Objective 12

The objectives under "Lower Potrero Subarea" are changed to, respectively:

- Objective 25
- Objective 26

The objective under "Islais Creek Subarea" is changed to:

- Objective 22

On p. VI.A.40, Objectives 2 and 3 are changed to, respectively:

- **Objective 23**
- **Objective 24**

The following changes are made to Table VI.A.2, p. VI.A.48. "Employment Policy 1," in the "Objective or Policy" column, is changed to:

- **Objective 3, Policy 1 and Policy 2**

The following sentence is added to the end of this item:

- **Increase number of jobs held by San Francisco residents.**

In the second item in this column, "Industry Policy 3" is changed to:

- **Objective 4, Policy 3 and Policy 4**

The following sentence is added to the end of this item:

- **If displacement does occur, attempt to relocate desired firms within the City.**

In the "Alternative A" column, the last sentence of the paragraph across from this item is changed to state:

- **Business transition, displacement and relocation are discussed in VI.B. pp. VI.B.93 and VI.B.124.**

"Industry Policy 5" is changed to:

- **Objective 4, Policy 5**

"Maritime Policy 4" is changed to:

- **Objective 5, Policy 4**

On p. VI.A.49, the next page of Table VI.A.2, "Neighborhood Commercial Policy 1" is changed to:

- **Objective 6, Policy 1**

The second and third sentences in the last paragraph on p. VI.A.55 are revised to state:

- **According to BCDC, interim uses should not be financially, physically or psychologically irreplaceable or should be readily moveable or replaceable should the Port desire to develop the property for maritime**

purposes./85/ With Alternative A housing, S/LI/RD and open space east of Third Street would not be acceptable interim uses according to BCDC criteria./85/

A new sentence is added to the beginning of the entry for "Port of San Francisco" in Table VI.A.3 on p. VI.A.68:

- **Reviews conformity of projects with port plans and policies.**

The text of note /46/ on p. VI.A.75 is deleted and replaced with the following:

- **Metropolitan Transportation Commission, Regional Transportation Plan for the Nine-County San Francisco Bay Area, November 1985.**

The following is added to precede the first sentence in note /59/ on p. VI.A.76:

- **Bill DeBoisblanc, Manager, New Source Review, Bay Area Air Quality Management District, telephone conversation, March 19, 1987.**

In note /78/ on p. VI.A.78, a typographical error is corrected, as follows:

- **James Bybee, Environmental Coordinator, National Marine Fisheries Service, telephone conversation, November 26, 1986, and letter, December 5, 1986.**



B. LAND USE, BUSINESS ACTIVITY, AND EMPLOYMENT

ASSUMPTIONS AND APPROACH

Comment

[On] p. [VI.]B.63 [the EIR states:] "For the purposes of the Mission Bay EIR, it is assumed that the Proposition M annual limit on citywide office development approvals would not constrain the amount or pace of office development in the Project Area."

This is perhaps the most faulty assumption in the entire EIR. If Santa Fe Pacific Realty expects to develop office space at all they should be prepared to enter the market place and compete with other developers. An exemption from competition seems highly unlikely, as does the development of 4 million square feet of office space. (Jim Firth, Mission Bay Clearinghouse)

Response

The EIR explains why, for analytical purposes only, it was assumed that the Proposition M annual limit on citywide office development approvals would not constrain the amount or pace of Project Area office development. This is the appropriate conservative assumption for environmental impact analysis in order to assess the potential maximum impacts that could reasonably be expected within the shortest period of time. It in no way implies that Mission Bay office development necessarily would be exempt from the Proposition M annual limit. Such an outcome would depend on San Francisco voters. Given the uncertainties surrounding that issue and the EIR objective of demonstrating the full impacts of possible growth scenarios, it was determined that the analysis should not be limited by the annual limit constraint. (See Volume Two, p. IV.11 in Chapter IV. Study Approach and Organization, and p.VI.B.63; and Volume Three, Appendix B, pp. XIV.B.37-XIV.B.41.)

Comment

[On] p. [VI.]B.59 [the EIR states:] "Analysis of the amount of decline and the types of factors involved indicated that the Downtown Plan EIR forecasts should be updated for the Mission Bay EIR to reflect recent office market conditions and an updated outlook for the future."

These forecasts are based on economic activity. The activity is based on the allowed use. Less intense use creates less demand for space. With no plan for Mission Bay, Showplace Square, North Potrero Hill, South Central Waterfront, South of Market (yet), how then are the forecasts applied? (Jim Firth, Mission Bay Clearinghouse)

Response

The commenter correctly concludes that the forecasts are based on economic activity. It is incorrect, however, to equate economic activity with allowed use and to state that "less intense use creates less demand for space." Instead of creating demand for space, land use plans and zoning influence where space is developed to accommodate demand. Demand for space is a function of business growth and decline, and changing location and facility needs, as well as land use policy and zoning. While zoning can influence the type and amount of development in an area, it is not the only factor that affects how an area will change. Business needs and the real estate market also are important factors. Zoning and land use policy can limit what occurs, but these tools cannot guarantee certain types and amounts of development. In general, the activity will not occur unless there is demand due to business expansion or changing location and facility needs.

The commenter asks how the forecasts are applied in Mission Bay, Showplace Square, North Potrero Hill, South Central Waterfront, and South of Market. Generally, the forecasts assume the policies of existing area plans and existing zoning. In other words, the demand for space indicated by the forecasts of business activity and employment growth is allocated to areas of the City based on their zoning characteristics as well as on other location characteristics such as transportation access or proximity to markets or related uses. For the Mission Bay EIR, zoning in place at the time the analysis was done (1987-1988) was assumed for Showplace Square, North Potrero Hill and the South Central Waterfront. For the South of Market area, the forecasts reflect the plans and policies of the Proposal for Citizen Review (June 1985). Notes /57/-/59/ in the EIR (Volume Two, pp. VI.B.134-VI.B.135) indicate potential differences related to the Proposal for Adoption (published after the EIR analysis was complete). For Mission Bay, the forecasts reflect the land use characteristics that define each Alternative. The introduction to the future context discussion summarizes the forecast approach (see

XV. Summary of Comments and Responses
B. Land Use, Business Activity, and Employment

Volume Two, pp. VI.B.50-VI.B.53 and VI.B.57-VI.B.58). Pages XIV.B.17- XIV.B.37 of Volume Three, Appendix B, describe in more detail the economic forecasting approach and methodology used for the Mission Bay EIR.

Comment

I think on Page [VI.] B.59, there are comments in the EIR about how the Downtown Plan EIR may need to be updated in order to adequately address the impacts of the employment issues in Mission Bay (Jim Firth, Potrero Hill League of Active Neighbors)

Response

The section to which the commenter refers says that the C-3 District forecasts in the Mission Bay EIR are an updated version of those in the Downtown Plan EIR. The EIR text goes on to compare the two sets of forecasts. (See pp. VI.B.59-VI.B.60 of Volume Two.) There is a table and more detailed comparison in Volume Three, Appendix B, pp. XIV.B.24- XIV.B.26.

The statements in the Mission Bay EIR do not say that the Downtown Plan EIR itself needs to be updated. Instead, the Mission Bay EIR explains that the forecasts incorporate an update of economic, employment and population conditions that results in analyses based on the most current data available.

Comment

The employment forecast in the EIR is higher than that of ABAG's. It remains staff position that regional and countywide growth will not exceed these forecasts for reasons previously outlined in Projections '87. However, we also recognize San Francisco's unique position with respect to the transportation network. Since EIRs consider "worse-case" scenarios, ABAG does not object, in this specific case, to using higher numbers because of San Francisco's unique geographic problems which affect the transportation network connecting the city to other parts of the region. (Gary Binger, Association of Bay Area Governments)

Response

The Comment is noted. The Mission Bay EIR acknowledges the differences between the employment forecasts used in the EIR analyses and other employment forecasts for

San Francisco. Those other forecasts were reviewed as part of the background work to develop the scenarios for the Mission Bay EIR. There are text and tables in the EIR comparing the San Francisco employment forecast used in the Mission Bay EIR to forecasts prepared by the Association of Bay Area Governments, Wells Fargo Bank, the Institute for the Future, the U.S. Department of Commerce Bureau of Economic Analysis, Pacific Gas & Electric Co., and the National Planning Association. See Volume Two, pp. VI.B.67-VI.B.68; and Volume Three, Appendix B, pp. XIV.B.27-XIV.B.28.

Comment

The Final EIR should identify the increased land value of the Mission Bay area due to its rezoning in order to assist decision makers in making economic, social and environmental tradeoffs.

The largest profit in real estate development occurs when land is rezoned to a higher or more profitable use. For instance, if a residential block in the South of Market area were rezoned to allow a 10 story office high-rise, the market value of that lot would increase immediately. If the owner sold the lot to an office developer they would realize a substantial profit solely from the rezoning action. A real estate assessor should easily be able to give some rough estimate of the increased value even if there is no actual transaction to sell the property.

The act of rezoning in the Mission Bay Area will provide substantial benefits to the Santa Fe [Pacific] Realty Corp. under any alternative. These profits are likely to be in the hundreds of millions of dollars. This windfall profit is what provides the opportunity for a project which can help solve rather than worsen existing housing, transportation, and traffic problems in the City while also providing substantial profit to Santa Fe.

The Mission Bay final EIR should estimate the land value of Mission Bay which would exist in 1988 if all Mission Bay property was immediately sold after being zoned for Alternative A, B, or N.

. . . [A table] could be used to estimate the increased value [associated with the type and amount of each of the land use and residential density categories in each of the EIR alternatives] which will result from a rezoning action by the City. This table should be able to be filled out in a very rough form in a matter of days. By making this rough estimate, decision makers and the public would have some context for making tradeoffs between different

Mission Bay land uses. The final EIR should contain this type of table filled out. (Alan Raznick, San Franciscans for Reasonable Growth)

Response

The land value analysis requested by the commenter was not provided in the EIR because it is a financial issue and therefore beyond the scope of a document that focuses primarily on physical environmental impacts. It is an appropriate subject for planning purposes, however. Such an analysis, "Economic Feasibility: Mission Bay, San Francisco," was published by the Department of City Planning as one of the special studies for Mission Bay./1/

The special study used a financial model to evaluate 12 alternative plans for the Mission Bay Project Area. Mission Bay EIR Alternatives A and B were covered in the analysis. Pages 27-32 of the special study describe the results of the analysis, answering the question: "How much money do the Alternatives make?" Table 5 on p. 28 summarizes the residual land values in total and per square foot of land for each of the alternatives analyzed. In 1986 dollars, the residual values range from \$19.93 to \$33.71 per square foot or \$14.26 to \$23.06 per square foot, depending on the discount rate assumed. One of the conclusions of the report reads as follows: "Among the 12 alternatives examined, the highest values for the development were recorded for the balanced schemes having substantial mixtures of housing, office and R & D (light industrial) spaces. The unbalanced schemes, heavily housing or heavily office, recorded the lowest values."/2/

LAND USE

Comment

[On] p. [VI.]B.22 [the EIR states:] "Over the 13-year period 1972-1985, Bay Area employment grew by nearly one million jobs at an annual rate of more than 3% per year. During the same period, San Francisco employment increased by about 100,000 jobs at an annual rate of about 1.6% per year."

San Francisco's job/employment growth was geared toward downtown office development, to the detriment of other employment categories.

[On] p. [VI.]B.23 [the EIR states:] "Overall, San Francisco had a net loss of employment between 1981 and 1985."

The policy to rely on office development to provide a stable and permanent employment growth had backfired....

[On] p. [VI.]B.24 [the EIR states:] "The South of Market also shows a decline, attributable to relocation of office activity and decline of employment in manufacturing, distribution and service businesses in part as a result of development pressures for conversion of industrial space to office use."

[On] p. [VI.]B.30 [the EIR states:] "Employment in the eastern South of Market lags behind physical changes that have taken place there. Much potential office space (particularly new construction and substantial renovation projects targeted towards office activities) remains unoccupied or undeveloped."

Office development has not been an effective job inducer in the last decade, and might not be for the next two decades.

[On] p. [VI.]B.26 [the EIR states:] "Information on recent office building construction, when viewed in the context of changes in office employment presented above, demonstrates the degree to which 'overbuilding' has characterized San Francisco's office market in the past few years."

[On] p. [VI.]B.27 [the EIR states:] "Since this amount of space [approved but not built] (7.2 million square feet) is required to apply towards the annual limit in increments of 475,000 square feet per year, it would take almost 15 years for the additional office space allowed to be approved at a rate of 475,000 square feet each year."

The speculative office development gamble is not worth taking at Mission Bay, and no office use should be approved beyond what has already been allowed Downtown and in the South of Market. (Jim Firth, Mission Bay Clearinghouse)

Response

Office space does not "induce" jobs, as implied by the commenter. That is because office buildings per se do not create employment growth. Business expansion results in demand for space to accommodate more businesses and workers. Absorption or occupancy of additional space is the result of business expansion and employment growth. Office development occurs in anticipation of that result. The timing of development and business cycles may mean that there is not a perfect match in the short run.

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Consequently, there may be relatively large amounts of vacant office space for a while, because the supply of space has outpaced the demand for space. Real estate investment decisions are generally based on longer-run calculations, however. Nevertheless, if business activity and employment did not grow enough to eventually absorb the space, it is likely that, at some point, another use for the site would be considered.

The net loss of employment in San Francisco between 1981 and 1985 is not evidence that there is no future in the office sector as a source of economic activity and jobs in San Francisco. The decline in jobs in the office sector over that period reflects national business cycle factors, business relocation decisions, and poor economic performance on the part of some large locally based firms. As described on pp. VI.B.23-VI.B.27 of Volume Two, the circumstances of the early 1980's are not typical of the longer-term outlook. The decline in office employment in San Francisco has not persisted, and many sectors have shown strong rates of growth in the mid-1980's.

The Mission Bay EIR does not support the commenter's conclusion that the office sector will not be a source of job growth in San Francisco over the next two decades. The text on p. VI.B.56 of Volume Two outlines the rationale for the office growth forecasts for San Francisco's Downtown & Vicinity. Between 1985 and 2000, office employment is expected to increase by 90,000 accounting for almost 90% of the net growth in employment in the Downtown & Vicinity. (See Table VI.B.17 on p. VI.B.54 of Volume Two.)

Moreover, the EIR does not support the commenter's conclusion that downtown office employment growth occurs to the detriment of other sectors. On the contrary, growth in office business activity supports a variety of different types of jobs in non-office businesses. Examples include manufacturing, distribution and repair businesses that serve office clients (e.g., printers, office furniture and supply distributors, and equipment repair operations). Hotels and the many other businesses involved in the convention trade depend on corporate business travel. Retail stores and auto repair shops depend in part on the spending of downtown office workers. In San Francisco, growth in all of these non-office sectors is linked to downtown office growth.

Comment

[On] p. [VI.]B.35/36 [the EIR states:] "Much

land in the industrial areas south of Army Street is covered with one-story warehouse/loading sheds." "Private investment in new facilities has been limited."

Most significantly the San Francisco Publishing Company is under construction now south of Army St. Other new development has taken place south of Army St. closer to the 101 freeway. In fact a great deal of private investment activity is taking place in the area despite what this EIR states. . . .

Economic activity is in excellent health on all sides of Santa Fe's property, and businesses are expanding. Wholesale, design, manufacturing, office and retail activity are all seeing growth and improvement. Although some of these businesses are relocating from other parts of the city, not all are. Business start-ups in the Showplace Square Area for example are increasing dramatically. Piers 48 and 50 see limited use because of limited attempts by the Port to encourage new operators/tenants using the facility. An aggressive campaign by the Port to bring "specialized" cargo to San Francisco would create the demand for those piers. The need to provide land through zoning changes for more employment (more intensive office or research) is unnecessary. A program to better use what is available is really what's needed. . . .

[On] p. [VI.]B.45 [the EIR states:] "Crafts, 'operative' and 'other laborer' occupations are also relatively more important to the composition of jobs in the rest of the City than in the Downtown & Vicinity."

If portions of the Mission Bay project are zoned to accommodate "blue collar" employment opportunities, then that's what will locate there. If the policy of San Francisco is to continue to force out those kinds of jobs, that determination will be made at Mission Bay. . . .

The zoning of Mission Bay will determine the character of employment there and of the surrounding areas. It is in the best interests of the City to encourage wages which will support the families who will be living in the Mission Bay housing. . . .

[On] p. [VI.]B.100 [the EIR states:] ". . . some distribution, warehousing and transportation services operations that had a strong preference for a centralized San Francisco location (near the Downtown & Vicinity and accessible to other areas) and a willingness to pay higher costs associated with new construction could be potential long-term occupants at Mission Bay under Alternative N."

Clearly, SF needn't turn its back on existing types of employment opportunities at Mission Bay. Continuing some of the existing zoning and adding new zoning classifications will encourage a diverse business climate. Whatever is decided upon as an allowable use will eventually occupy the space....

The opportunities (demand) for employment will be determined by what zoning is allowed in Mission Bay. None of the Alternatives are acceptable without significant combination and/or variation. The type(s) of employment that will be of greater benefit to San Francisco residents and a diversity of jobs must be the result of what you approve. Until you have a plan which outlines and identifies those exact figures, it is impossible to make any recommendation. (Jim Firth, Mission Bay Clearinghouse)

Response

At several points in his letter, the commenter concludes that zoning will determine the types of businesses and jobs located in Mission Bay. "If portions of the Mission Bay Project Area are zoned to accommodate 'blue collar' employment opportunities, then that's what will locate there." "Whatever is decided upon as an allowable use will eventually occupy the space." Those statements are only partly correct.

Zoning defines allowable uses and the size and scale of buildings that could be developed. That places some limits on the types of business activity and employment that might eventually locate in an area. The other important parts of the equation are demand for space and other location options. If "blue collar" employment is not growing or businesses that have "blue collar" jobs are not looking for new locations, then, no matter what the zoning, the space is not likely to be occupied by businesses employing "blue collar" workers. Demand for space due to business growth or relocation needs, in combination with zoning and land use policy, determines the types of businesses and jobs that would be accommodated in Mission Bay or in any other area. Moreover, a business's evaluation of locating in Mission Bay would include comparison of space costs, types of facilities available, expansion potential, access, and compatibility with surrounding uses. For many businesses such as those in the service and distribution industries, the cost of the new space at Mission Bay may be too high when their options include substantially less expensive existing space or new space in less costly outlying locations.

The commenter asserts, with regard to Piers 48 and 50, that "an aggressive campaign by the Port to bring 'specialized' cargo to San Francisco would create the demand for those piers." The Staff Report and Preliminary Recommendation on Proposed Revisions to the San Francisco Bay Area Seaport Plan, prepared by the staff of the Bay Conservation and Development Commission (BCDC), presents conclusions to the contrary. That report cites several reasons why Site 44A (adjacent to the Mission Bay Project Area) is not likely to be developed for use as a non-container terminal. According to the background cargo forecasting reports prepared for the purpose of the Seaport Plan revision, there are currently enough designated sites to handle long-term demand for non-container cargoes. Moreover, Site 44A has disadvantages that make an aggressive campaign for its development unlikely. There are road and rail access problems; development would be unusually costly, particularly when viewed in light of the relatively lower average revenues expected from non-container cargoes; ship repair and other existing port-related uses as well as public access and recreation uses would be displaced; and there could be operational conflicts with other maritime uses./3/

Comment

[On] p. [VI.]B.113 [the EIR states:] "S/LI/RD space would be occupied by uses similar to those already occupying rehabilitated industrial buildings and some new construction in Showplace Square and North Potrero / Potrero Hill.

In particular, Alternative A would provide options for showroom and related development in S/LI/RD space at Townsend and Seventh Streets in the Project Area."

The continuation of an existing use will allow expansion and growth opportunities for that industry while not creating non-compatible uses next door or across the street.

The second -- SLIRD -- secondary [service] light industry RD space. It's been defined in so many different categories in the EIR that I think that in order to do an adequate job in terms of the land use plan, that you may need to identify a little more specifically the kinds of those light industry or whatever uses you want and where exactly you want them.

. . . [F]or example, as is mentioned, [though] not in much detail . . . in the EIR, the corner of Seventh and Townsend may be suitable for the expansion and continuation of designer Showplace activities. . . .

. . . [O]ne of the things that we are hoping will not be located in Mission Bay are things that have to do with biotechnology or the computer industry, which, as a by-product of those industries, creates toxic materials which then have to be removed from that site -- not from the ground necessarily, but removed by truck through the residential areas and away and out to an appropriate dumping site. (Jim Firth, Mission Bay Clearinghouse)

Response

Service/light industrial/research and development (S/LI/RD) space is defined once in the Mission Bay EIR, in Chapter V. The EIR Alternatives and Approval Process, under the heading "General Description of Land Uses" (see Volume Two, pp. V.2-V.3). As indicated in that description, a primary characteristic of S/LI/RD space is its flexibility; it would accommodate a variety of uses. Three general types of uses are identified, along with more detail on the types of businesses and activities that could occupy the space. The three main types of uses would be: service industrial, light industrial / research and development, and wholesale/showroom. Among the factors influencing the activities that would occupy S/LI/RD space under Alternatives A and B would be: location, type and quality of structure, access, and adjacent uses. As the use is currently defined, businesses in the biotechnology and computer industries as well as medical or educational institutional facilities could locate in S/LI/RD space.

Comment

[On] p. [VI.]B.50 [the EIR states:] "Consequently, in this future context section, different sets of numbers are presented as the scenarios for the future under each Alternative, incorporating the different effects of each Mission Bay Alternative on future conditions outside the Project Area."

If any land use is not included in the future context section the resulting impacts on the entire project could be invalid. If the Cal-Train station is moved downtown (not considered in detail in this EIR), if an Arena/Stadium is built in or near the project, or should a regional retail shopping area evolve along 7th St. south of Townsend, these elements would change the entire conditions of Mission Bay.

The point is that these issues must be resolved before their impacts can be measured accurately in their relation to the Mission Bay project. (Jim Firth, Mission Bay Clearinghouse)

Response

The specific land use concerns of the commenter are addressed in various components of the Mission Bay EIR. Variant 9 (CalTrain Station Location), on pp. VII.51-VII.54 of Volume Two, Chapter VII. Variations on Alternatives, discusses extension of CalTrain service into downtown. The stadium/arena proposal is discussed in the Draft Supplement to the Mission Bay Draft EIR, issued March 17, 1989. Both Variant 11 (EIR Hearing Proposal) and Variant 12 (Development Agreement Application) incorporate substantially larger amounts of retail space in Mission Bay than any of the Alternatives; analysis of that level of retail activity is included in the analysis of those variants. (See XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26, and XV.P.27-XV.P.46, respectively, for an analysis of Variants 11 and 12.)

Comment

There appears to be no reference in the Report [Draft EIR] to the possible presence of the museum and its ships adjacent to the Mission Bay development, but I presume that these fall into the category of maritime related port activity referred to in Alternate N. This alternate should be retained in public ownership east of Third Street to Piers 48 and 50 which includes this committee's interest. (Raymond Aker, China Basin Maritime Historical Park Committee)

Response

It is possible a small portion of land designated for port-related use east of Third Street, adjacent to Piers 48 and 50, could accommodate a museum in Alternative N. However, the main group of activities assumed to locate in this area would be maritime-oriented businesses more than a maritime institution. Some examples of maritime businesses are container freight stations, maritime equipment manufacture and supply, chandlers and other marine sales and service businesses, and ship/boat building and repair facilities.

The City already enjoys the benefits of the National Maritime Museum in the Northern Waterfront. Given the presence of a protective breakwater and a number of complementary facilities there, the Northern Waterfront location is considered to be preferable to Mission Bay./4/

Several planning efforts are now underway to revitalize the maritime character of the Northern Waterfront. The joint planning process headed by the San Francisco Redevelopment Agency and

Department of City Planning for Fisherman's Wharf includes consideration of providing new maritime institution space in a renovated Haslett Warehouse, and extensive urban design treatments that would better unify the western half of the waterfront (including Aquatic Park and the Maritime Museum) with the eastern half. In addition, the Port of San Francisco is independently pursuing the creation of a proposed Seafood Center on Pier 45 and on new facilities to be added to the Hyde Street Pier. The center would expand fishing industry facilities at the Wharf. Furthermore, the National Park Service, which has designated this area a Maritime National Historic Park, will be working to improve and upgrade the Hyde Street Pier. All these improvements would complement and further enhance the maritime values in the area, making it the preferred location over Mission Bay for the addition of any other maritime museum facilities.

JOB OPPORTUNITIES

Comment

I guess I will begin my comments by saying . . . it's obvious that California is going to grow. The question is where. In analyzing where the construction is going on in California today, we find that statewide over the past four years, the amount of construction that our members do has remained extremely constant, around . . . [\$]17 to \$18 billion a year. . . .

Another indicator is where the construction is happening. If you look at, say, the Bay Area compared to the Los Angeles area, you find that in all of the counties surrounding San Francisco Bay, the construction that our members do is down about 29 percent over the past four years. If you look at L.A., L.A. County alone is up about 33 percent. The loss in construction in San Francisco is so significant that . . . the gain of construction in the City of L.A., . . . in the past four years is larger than the total construction left in San Francisco in 1988. . . . That is the kind of impact the downturn in construction in San Francisco has had on the economy and on the construction industry.

Now, that directly doesn't hurt our members because they work all over the state. Construction is consistent. . . . [However,] it's hurting San Francisco. It's hurting the people who work in San Francisco. It's hurting construction workers in San Francisco, which is still predominantly union in the type of work that we do. (Thomas Thompson, Associated General Contractors of California)

Response

Mission Bay development would support a substantial number of construction jobs in San Francisco. As described in the EIR, the amount of construction employment varies according to the amount and type of development. Alternative A would generate the most construction jobs (about 12,700 person-years of construction labor over the course of the development period); Alternative B would generate about 9,900 person-years of construction labor and Alternative N, about 4,200 person years of labor. (See pp. VI.B.88-VI.B.90 of Volume Two.) Pages XIV.B.43-XIV.B.48 of Volume Three, Appendix B, describe the procedure and assumptions for estimating Project Area construction employment.

Comment

We have reviewed the Mission Bay draft Environmental Impact Report and find that it does not adequately address the impact of the project on issues of employment, affirmative action, M.B.E's, W.B.E's and surrounding neighborhoods. There needs to be a more comprehensive analysis.

The CDC, in our policy/negotiating statement to the developer, Santa Fe [Pacific] Realty Corporation, outlined general policies regarding the project, that if adopted would address some of the key concerns of the low/moderate income community. . . . Until these issues are addressed in the E.I.R., the E.I.R. is incomplete and not acceptable to the CDC. (Jim Queen, Community Development Council)

Response

The commenter raises concerns about how the Mission Bay EIR deals with job and business opportunities as well as nearby neighborhoods. The latter concern is addressed in the Response on pp. XV.B.13-XV.B.14. The Response below directs the commenter to the EIR discussion and analysis of employment and job opportunities in the Project Area under each Alternative.

The Mission Bay EIR describes the amount of employment and types of job opportunities in the Project Area for Alternatives A, B and N. The land use characteristics of each Alternative are translated into estimates of the number of jobs and the characteristics of jobs offered in Mission Bay under each Alternative. Tables VI.B.29 and VI.B.30, on p. VI.B.84 and p. VI.B.86, respectively, of Volume Two, show the estimates

of Mission Bay jobs by occupation and by wage/salary category for 1985 (existing conditions), 2000, and Build-out/2020. The EIR also compares the Alternatives with respect to benefits to the labor force, describing the number and type of job opportunities offered by each Alternative. (See Volume Two, pp. VI.B.83-VI.B.93.)

It is not possible to predict at a program level of analysis the implications of Mission Bay development for minority-owned or woman-owned businesses. Under each Mission Bay Alternative, commercial development in Mission Bay would offer location options for minority-owned, woman-owned and other small and large businesses. Affirmative action policies such as those outlined by the commenter could be incorporated into the master plan and development agreement, and would be identified in the course of the planning (as opposed to environmental review) process for Mission Bay.

Comment

[On] p. [VI.]B.40 [the EIR states:] "Overall, wages and salaries tend to cluster in the \$15,000 - \$49,000 range, with 72% of the jobs in this group."

These statistics show that about 50% of the workers earn less than \$25,000. I would like to know what percentage earn less than \$35,000? (Jim Firth, Mission Bay Clearinghouse)

Response

The commenter cites a statement from VI.B. Land Use, Business Activity, and Employment that refers to the table describing the occupation and wage/salary characteristics of jobs in the Mission Bay Project Area in 1985. According to the survey of Project Area businesses, about 57% of the jobs pay under \$25,000 per year. Another 40% of the jobs pay from \$25,000 to \$49,999 per year. The wage/salary characteristics are based on survey data collected according to the categories shown. Therefore, it is not possible to indicate exactly what percentage of jobs falls in the less-than-\$35,000 category. The percentage falls somewhere between 57% and 97%. Assuming the jobs were distributed evenly along the wage/salary spectrum, an estimated 73% would be in the under \$35,000 wage/salary category.

Comment

[On] p. [VI.]B.48 [the EIR states:] "In addition,

there are people not in the labor force who want to work but do not look for a job because they think they cannot find one. Such people are typically referred to as 'discouraged workers'."

How many "discouraged workers" are there? Where do they live? What plans are being made to provide training and employment opportunities for them?

[On] p. [VI.]B.49 [the EIR states:] "A decline in unemployment rates indicates, in both an absolute and relative sense, that more people are employed."

Since the data to predict the unemployment rates is incomplete, (see above) how can you really justify the statement? (Jim Firth, Mission Bay Clearinghouse)

Response

It is difficult, even at the level of national statistics, to develop an estimate of how many discouraged workers there are or their place of residence. It is likely that there are relatively more discouraged workers in cities and regions with weak economies than there are in areas with strong rates of economic growth. The proportion of the labor force that could be considered discouraged is likely to increase during periods of time or in locations in which there is a mismatch between the skills of the workers and the prevailing needs of the employers. The decline of employment opportunities in heavy industry and the growth opportunities in retail trade and business and commercial services is one such structural shift that has contributed to the pool of discouraged workers.

The Mayor's Office of Community Development and the San Francisco Private Industry Council administer or fund employment and training programs for the City. Some of those programs are designed to help discouraged workers and other unemployed people.

The statement about unemployment rates from p. VI.B.49 of Volume Two is quoted out of context. It is the concluding sentence of a paragraph describing the relationship between the overall level of economic activity and unemployment rates. The preceding sentences describe how, in a period of economic expansion, more people are employed and the labor force is likely to grow. To the extent this occurs, a decline in unemployment rates reflects both the absolute and relative increase in people employed.

Comment

[On] p. [VI.]B.91 [the EIR states:] "Employment opportunities or openings would occur as Project Area businesses grew and expanded and as a result of on-going job turnover."

Are job and expansion opportunities the same with each alternative and variant? Will the land use plan accommodate businesses' need for additional space? (Jim Firth, Mission Bay Clearinghouse)

Response

As stated in the EIR, the number of employment opportunities or job openings each year would depend on total employment under an Alternative. Generally, the larger the amount of employment in the Project Area, the larger the number of employment opportunities. The types of opportunities would vary depending on the types of businesses locating in the Project Area. For the Alternatives, the differences in job opportunities are described in Volume Two on pp. VI.B.91-VI.B.92. Where relevant, Chapter VII. Variations on Alternatives, in Volume Two, identifies what a variant would mean for Project Area job opportunities.

At this level of planning and analysis, it is not possible to predict the expansion needs of businesses that could be located in Mission Bay at some time in the future. In general, the more commercial space allowed in the plan for the Project Area, the greater the ability of Mission Bay, and San Francisco as a whole, to accommodate business needs for additional space.

Comment

[On] p. [VI.]B.89 [the EIR states:] "Because major infrastructure items to prepare the site for the first phases of development (removal of the I-280 freeway stub and construction of new ramps, CalTrain relocation, MUNI Metro extension, channel improvements, new channel bridge) are assumed to be completed by 1995, construction employment associated with those activities would be lumped in the early years of the development period."

It is a mistake to assume the CalTrain station will relocate. Is pre-first phase employment such as the clean-up of the entire project site included in the figures? (Jim Firth, Mission Bay Clearinghouse)

Response

The CalTrain relocation issue is discussed in XV.E. Transportation in the Response on pp. XV.E.27-XV.E.29.

Employment related to investigation and clean-up of hazardous materials in the Mission Bay Project Area was not estimated for the EIR because the type and extent of the work that would be required are not known. Any clean-up-related employment would be treated similar to construction employment (i.e., not permanent employment). For example, it would not be counted as part of the Project Area jobs/housing analysis.

PROJECT AREA RETAIL ACTIVITY

Comment

[On] p. [VI.]B.104 [the EIR states:] "Under all Alternatives, the amount of retail space in the Project Area would be [larger] than that supported only by Mission Bay workers and residents."

[On] p. [VI.]B.105 [the EIR states:] "The total amount of retail space in Alternative A could accommodate large stores (supermarket, drugstore) typical of a neighborhood center although the configuration of the space, as illustrated on the map may not be appropriate."

[On] p. [VI.]B.106 [the EIR states:] "Given the strong residential character of Alternative B, it might be appropriate in that Alternative to provide for a neighborhood shopping center in Mission Bay to serve residents of both the Project Area and Nearby Areas by consolidating a larger amount of retail space on a large site where access would be easy."

[On] p. [VI.]B.118 [the EIR states:] "All of the Alternatives would increase retail shopping and eating and drinking opportunities in the Mission Bay vicinity. Thus, future development of Mission Bay would expand retail options available to residents and workers in nearby areas."

The retail employment component at Mission Bay should offer a variety of choices. A "neighborhood shopping street or streets" and a "shopping center" should both be established in Mission Bay. A strong emphasis should be made to serve the Nearby Areas.

The retail use that has been suggested in the three alternatives, again, we believe is going to be seriously inadequate. We are anticipating that this is going to be a development, a new neighborhood that is going to be serving people, and people are going to need to have a neighborhood -- retail, streets, services, shoe shines, small grocery stores, small restaurants.

We are not suggesting that you bring in large franchise operations, although I think that as is mentioned in the EIR in one of the alternatives, that a large retail grocery store and drugstore combination may be appropriate at the south end of that development near to where it was proposed in the EIR. (Jim Firth, Potrero Hill League of Active Neighbors)

Response

The Comment is noted. The EIR describes the amount and type of retail space in Mission Bay under each Alternative. The EIR comments on the configuration of retail space in each Alternative and what that might mean for the type and variety of retail development. The EIR also compares the amount of retail space in each Alternative to the amount of retail space that would be supported by the spending of Project Area residents and workers. That comparison, along with the description of the likely types of retail development, provides an indication of the extent to which Mission Bay retail activity also would serve Nearby Areas. (See pp. VI.B.104-VI.B.106 and pp. VI.B.117-VI.B.119 of Volume Two.) The EIR analysis of Project Area retail development is being used in consideration of the Mission Bay Plan.

IMPLICATIONS FOR EXISTING BUSINESSES IN THE PROJECT AREA

Comment

H&H Ship Service is a company which has provided service for the San Francisco shipping industry since 1950. The company began as a bilge and tank cleaning service, and continues to provide this necessary function to this day.

In the 1960's, H&H expanded its scope to include the clean-up of hazardous wastes from industrial sources, waste transport, cleaning and dismantling of underground storage tanks, and emergency clean-up of hazardous material spills throughout the Bay Area.

H&H is also the only recognized reception facility in the San Francisco Bay Area authorized

to receive the oil, water and other wastes that may no longer be discharged at sea by tankers or other ships. It carries out this task pursuant to the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) and pursuant to Vol. 33, U.S. Code of Federal Regulations §§156 and 157.

The H&H facility is located at the South entrance to China Basin, adjacent to Pier 48. The Treatment/Transfer area (tank farm) and laboratory are situated just north of the pier. The main office, tank cleaning and drum storage areas are located on the West side of China Basin Street, across from Pier 48.

H&H Ship Service Company is requesting that consideration be given to two factors in the drawing of project boundaries of the land use plan and in the various stages in the project implementation.

I. Project boundaries should be drawn to exclude the H&H facility, thereby permitting H&H to continue operations in its present location.

H&H provides a needed service to the maritime industry, and can be most effective in its present location. The Port of San Francisco has advised that there is no alternative site available to H&H. If ships are to receive the promptest possible clean-up service, the company must be kept in the area, in a site licensed by the State Department of Health Services. Considering the difficulties in obtaining permits for any new site, the course of action that best serves the community is to permit H&H to remain in its present location.

The services of H&H will also be needed to clean up the existing hazardous waste sites and underground tanks in the project area. Since transportation can be a significant element of clean-up cost, economic factors also suggest that H&H be permitted to continue to operate at its present location.

II. If the decision is to ultimately build or otherwise use what is now the H&H site, then H&H will need a minimum five year notice.

The hazardous waste clean-up business may be the most heavily regulated industry in the United States. In addition to site acquisition compliance with all the land use regulations, EIR processes, design, building and zoning permits required for any new site for a large scale business, there are site-specific permits required by the California Department of Health Services and the Environmental Protection Agency. Separate permits are needed for transportation, temporary

storage and waste treatment activities. Some of these permits require three to four years just for the review and approval process. This is in addition to the time required to locate and acquire a site, perform all the design and engineering work and to satisfy EIR requirements.

This request appears particularly reasonable in view of the EIR's projection for Alternative B (Vol. I, p. II.12) showing that existing uses in the H&H area are to remain undisturbed in the year 2000 (over ten years into the project). Presumably, similar phasing could be used for any alternative finally selected.

Realistically, it is questionable whether H&H could relocate its facility and continuously remain in business even with a five year notice. Therefore we request assurance of at least five years notice, should relocation become necessary. (Gary L. Widman, Bronson, Bronson, & McKimmon)

Response

The relocation problems faced by H & H Ship Service are described in general terms in the EIR. The EIR acknowledges that some existing Project Area businesses have limited location options because of special access and facility requirements or because they are considered a "nuisance" activity, necessitating special planning and review. The EIR also notes that finding acceptable substitute locations for Project Area maritime-related businesses may require public agency involvement and planning (see pp. VI.B.93-VI.B.104 of Volume Two).

To add further information about H&H, the following sentence is added at the end of p. VI.B.94 of Volume Two:

- **H&H Ship Services is an example of a business which may have difficulty relocating because its permit to receive, store and treat used and unused petroleum wastes is on record for the property it occupies near Pier 48 and cannot be moved. The owner would have to apply for a new permit at a new location./49a/**

New note /49a/ is added following note /49/ on p. VI.B.133 of Volume Two:

- **/49a/ H&H Ship Services has a grandfathered Interim Status Document (ISD). The ISD permit allows them to store and transport petroleum wastes to refineries for chemical reprocessing. The permit cannot be transferred to a new location. The owner would have to apply for a new Treatment,**

Storage or Disposal (TSD) permit (see p. VI.N.14). The application would require full CEQA compliance for the siting of a Hazardous Waste Facility, as well as permits from the Regional Water Quality Control Board, state Department of Health Services, and local agencies. TSD permits are expensive and difficult to obtain, and the process could take a number of years. (Salvatore Ciriello, Senior Waste Management Engineer, Department of Health Services, Region 2, telephone conversation, April 25, 1990.)

As noted by the commenter, the phasing of Mission Bay development could be structured to provide lead time to relocate H & H Ship Service. The phasing plan for Mission Bay is one of the subjects of the development agreement. The tenure of H & H Ship Service at this location also depends on the terms of agreements with the landlord, the Port of San Francisco.

Comment

[On] p. [VI.]B.37 [the EIR states:] "The ship repair activity at Pier 50 is the only maritime activity on piers adjacent to Mission Bay that extends to land in the Project Area;"

I'm not sure, but I'd like to know where the United Coffee warehouse on 3rd St. gets its bulk cases of coffee? (Jim Firth, Mission Bay Clearinghouse)

Response

The commenter cites one sentence from a paragraph describing the use of port property adjacent to the Project Area. There is a variety of both non-maritime and maritime-related uses on port property east of China Basin Street, outside the Project Area. The sentence cited indicates that only one of those uses actually extends to port property within the Project Area on the west side of China Basin Street. This is not to imply that there is only one maritime-related business in the Project Area. As described on pp.VI.B.9-VI.B.10 of Volume Two, there are several (13) maritime-related establishments in the Project Area. One is the United Coffee Corporation, at 145 Third Street. According to interviews with company management, United Coffee handles coffee beans delivered from the port's container terminals at Piers 80 and 94-96. They receive shipments infrequently, about once every two to three months. There are other establishments in the Project Area that have a relationship via truck transport with San Francisco container terminal facilities to the south.

XV. Summary of Comments and Responses
B. Land Use, Business Activity, and Employment

Comment

[On] p. [VI.]B.38 [the EIR states:] "Many existing facilities continue to be used by generally small-scale maritime and related activities, consistent with Port priorities for the area."

What is the annual dollar benefit to the city in taxes, fees or permits? (Jim Firth, Mission Bay Clearinghouse)

Response

The commenter quotes a sentence from the Setting description of land uses on port property adjacent to the Project Area. The public revenues collected from those or any other businesses in or near the Mission Bay Project Area were not estimated for analysis in the EIR. Public revenue and cost issues are economic issues that are being addressed in project planning and review. They are addressed by the City as part of the ongoing development agreement negotiations.

The businesses on port property adjacent to Mission Bay do generate some annual revenue for the City. As port tenants, they pay rent to the Port of San Francisco. They pay property taxes in the form of possessory interest taxes. Depending on their size, they pay payroll taxes or business taxes and, depending on the activity, they may contribute to sales tax revenue. The businesses also pay San Francisco's utility user tax.

Comment

[On] p. [VI.]B.96 [the EIR states:] "The Alternative A development pattern by 2000 would mean that existing businesses representing about 1,300 workers would no longer be in the Project Area, a decline of about 75% in employment of the type formerly characterizing the Project Area in 1985."

Relocating some of these activities east of 3rd St. (which will remain as a major transit corridor) will soften the negative impacts, job loss for SF residents, and revenue loss to the City. (Jim Firth, Mission Bay Clearinghouse)

Response

Relocation east of Third Street in the Project Area would not be a permanent solution, if the development plan for that part of the Project Area under Alternative A or a similar development plan were approved. It is possible that a few

existing Mission Bay businesses would relocate in the new S/LI/RD development east of Third Street, but most would seek relatively lower-rent locations. There are locations to the west and south of Mission Bay where existing businesses could relocate and still remain within San Francisco. Both existing buildings and the warehouse-type new development occurring in the Inner Mission, Central Bayfront and South Bayshore areas offer a range of options. There also are sites in the City, particularly to the south, with outdoor storage and yard space. Some existing Mission Bay businesses have other facilities in San Francisco outside the Project Area where they could consolidate their operations.

Not all existing Mission Bay businesses would be able to find a suitable substitute location in San Francisco outside the Project Area. Assistance with relocation may make a difference for some. This is acknowledged as Mitigation Measure B.1 on p. VI.B.124 of Volume Two.

It is worth noting that, under all Alternatives, Mission Bay development would result in a net gain of employment in the City and an increase in job opportunities for San Francisco residents. Also, under all Alternatives, the Project Area would produce more revenue for the City than was contributed by activity in the Project Area in 1985.

Comment

[On] p. [VI.]B.93 [the EIR states:] "Eventually, for some businesses, peripheral locations become more desirable than central locations."

Which businesses are you assuming would want to be further from the central locations and for what reasons?

[On] p. [VI.]B.95 [the EIR states:] "It is difficult to predict the relocation decisions of specific businesses."

Have these businesses been asked where they would want to move, or even if they want to? (Jim Firth, Mission Bay Clearinghouse)

Response

The sentence in the EIR preceding the one first cited in the comment provides, in general terms, the answer to the commenter's questions. The third full paragraph on p. VI.B.93 of Volume Two states:

The expected transition [in business activity and employment in the Project Area] follows a long-term pattern of decline in distribution, warehousing and associated transportation activities in the Downtown & Vicinity as access deteriorates with increasing congestion and other locations become more convenient to markets served. Eventually, for some businesses, peripheral locations become more desirable than central locations.

The description and analysis of existing business activity and employment in the Mission Bay Project Area is based on a survey and inventory of each business in the Project Area. The findings are not described in terms of individual businesses, however, but rather in terms of the types of activities into which they can be categorized.

Generally, businesses involved in storage, transfer and distribution of goods have been moving out of downtown San Francisco (as they have in other central cities). This is because other locations offer more up-to-date facilities, lower space and land costs, more room for expansion, less congestion, better access to rail and highways, and, as population growth has shifted to suburban areas, better access to markets. For those reasons, a downtown location does not make economic sense for many such companies. Project Area establishments in the Transportation and Related Services, Wholesale / Distribution / Warehouse, and Vehicle / Equipment Storage business activities make their location decisions based on some combination of those and other reasons.

The Department of City Planning has not discussed relocation with existing Project Area businesses. As described in Volume Two of the EIR on pp.VI.B.93-VI.B.96, most of the businesses in the Project Area, whether tenants of Santa Fe Pacific Realty Corporation or the Port of San Francisco, hold short-term leases. As explained in the EIR, many are aware of the potential for future development but assumed, correctly, that the development process would take a long time to complete. Tenants holding long-term leases, businesses that own their land and/or buildings, and businesses that have substantial investments in facilities or equipment in the Project Area would negotiate with the developer and/or the Port should the Mission Bay project proceed. Since the development would be phased over a long time period, there should be ample notice and time to plan for relocation.

IMPLICATIONS FOR NEARBY AREAS

Comments

The Draft EIR is uncertifiable on the basis that it effectively ignores the environmental impact of Mission Bay development on areas immediately adjacent to the site. "Environmental impact" as confined to the area up to the physical street limits of the site? Ridiculous! Prima facie false. (Leigh Kienker)

An application [amplification] of the written comments that have been submitted already regarding growth inducing impacts on adjacent neighborhoods, the South of Market, the issue of gentrification, commercial gentrification and residential resulting from Mission Bay's enhancement of property values in the area is a critical one. It receives one sentence only in the entire EIR. No data. No analysis. No economics behind it. It needs a full description. It needs a full analysis. (John Elberling)

Response

The EIR does not ignore the impact of development in the Project Area on areas adjacent to Mission Bay. On the contrary, the EIR contains substantial analysis of surrounding residential neighborhoods and commercial/industrial areas. In Volume Two, VI.B. Land Use, Business Activity, and Employment, and VI.C. Housing and Population describe both existing conditions and the implications of each Alternative for land use patterns, business activity and employment growth, and housing and population in areas adjacent to, and in some cases, relatively distant from, Mission Bay. The following areas surrounding the Project Area are discussed in the EIR: South of Market, Showplace Square, North Potrero, Potrero Hill, Lower Potrero, Central Bayfront, and the piers and seawall lots east of the Project Area (see Figure IV.2 on p. IV.6 of Volume Two, Chapter IV. Study Approach and Organization). The more distant Inner Mission and South Bayshore areas are discussed also, though in less detail.

In VI.B.: Setting, there are ten pages describing existing land use patterns and development trends in Nearby Areas (see pp. VI.B.28-VI.B.38). In VI.B.: Future Context, the longer-term scenarios for land use change, business expansion and

employment growth are described (see pp. VI.B.65-VI.B.67 and pp. VI.B.76-VI.B.78). There are 13 pages in VI.B.: Impact describing how Mission Bay development under each Alternative would affect the pace of growth and change in Nearby Areas (see pp. VI.B.106-VI.B.119). The land use implications are reiterated in VI.O. Growth Inducement (see pp. VI.O.8-VI.O.9). In VI.C.: Setting, there are ten pages describing the characteristics of the population and housing stock in nearby residential areas (see pp. VI.C.16-VI.C.26). This description is supplemented by four background tables in Appendix C (see Volume Three, pp. XIV.C.7-XIV.C.11). The discussion of the future scenario for citywide housing development and population growth in VI.C.: Future Context describes the expected distribution of housing and population in the City with particular attention to the outlook for residential neighborhoods in the Downtown & Vicinity and elsewhere near Mission Bay (see pp. VI.C.42-VI.C.44). There are eight pages in VI.C.: Impact comparing the implications of the Mission Bay Alternatives for the future character of nearby residential areas (see pp. VI.C.86-VI.C.92). This discussion appears again under the heading "Spillover Effects in Nearby Areas" in VI.O. Growth Inducement (see pp. VI.O.8-VI.O.9).

Existing conditions in Nearby Areas are described using background data, to the extent it is available. Much of the discussion in the EIR is qualitative, however. That does not mean that no economic analysis was done. The conclusions presented are based on economic analysis: on consideration of demand (from businesses and households) and supply (space for business expansion, housing units) and location factors such as relative space costs, access, amenities, neighborhood characteristics, etc.

In addition, the EIR analyzed physical impacts on Nearby Areas in Volume Two, VI.E. Transportation and VII. Architectural Resources and Urban Design. The Mission Bay EIR also incorporates cumulative analysis of other growth and change in addition to that represented by the Alternatives for the Project Area.

Comment

The EIR should clarify its discussion of Alternative B to indicate that this alternative will not result in office construction in nearby residential neighborhoods.

The Mission Bay EIR states that the demand for employment in Downtown San Francisco will

essentially be the same under any Mission Bay Alternative. To the extent Mission Bay has less commercial office development, that development will occur in other areas of San Francisco such as the C-3 and South of Market Districts where permitted by existing zoning.

However, the EIR should stress that commercial development will occur in these other areas only to the extent that it is compatible with existing zoning and is approved by the City.

The draft EIR states that:

"Alternative B would probably cause [showroom] and related activity as well as small office businesses to expand further west into the Inner Mission" (p. II.30), and:

"By giving priority to housing, Alternative B would provide fewer options for business activity and employment growth in the Project Area. Compared to the other Alternatives, Alternative B would result in the most growth and development in other parts of the Downtown & Vicinity and in other Nearby Areas" (p. II.31).

Although these quotes are accurate, taken together with the other discussion in this section a casual reader may improperly infer that building housing in the Mission Bay area may result in increased office development in the Inner Mission. Given the value laden background of the neighborhood versus office development debates of the last decade, one could mistakenly read this section of the EIR and conclude that Alternative B may cause offices to spread into residential neighborhoods. These were the fears raised by the 1979 "No on Proposition O" campaign that if the office buildings did not go up in a concentrated area (in this case Mission Bay) they would go up in your neighborhood.

The Final EIR should clarify these statements to assure readers that, because of current zoning constraints and the Priority Policies of Proposition M, encroachment of office space into residential neighborhoods would not result from implementation of Alternative B. (Alan Raznick, San Franciscans for Reasonable Growth)

Response

First, the commenter is referred to the full EIR text in Volume Two describing implications for Nearby Areas, pp.VI.B.106-VI.B.119. This discussion, summarized in Volume One as cited by the commenter, deals with industrially zoned

areas adjacent to Mission Bay. The planning areas surrounding Mission Bay include areas zoned for industrial and commercial uses and areas zoned for residential use. Nearby Areas are discussed in Volume Two in both VI.B. Land Use, Business Activity, and Employment, and VI.C. Housing and Population. The discussion in VI.B. focuses on the areas zoned for business use, while the discussion in VI.C. focuses on residential neighborhoods.

The industrially zoned areas, and their existing land use characteristics, are described in detail on pp. VI.B.28-VI.B.38. The context for the impact discussion, as set forth in Volume Two on pp. VI.B.65-VI.B.66 and VI.B.76-VI.B.78, is development trends and changes in business activity occurring in older industrial areas of the City. The EIR does not say nor is the discussion meant to imply that offices will spread into residential neighborhoods. The EIR explains that the trend for office, showroom and related new business activity to locate in industrially zoned portions of Nearby Areas will continue, as will the growth of some wholesale, distribution, manufacturing, and commercial service businesses, and the decline of other, primarily older, larger-scale operations.

The types of offices described as expanding in the Inner Mission, for example, under Alternative B, are small office businesses and other rent-sensitive office operations looking for converted space in existing buildings or lower-rent new space in the mixed-use, flexible space projects developed in these locations outside the Downtown & Vicinity. This type of development is allowed by current zoning. Many would be smaller projects, falling below the size requirements triggering review under the Proposition M annual limit.

The Mission Bay EIR simply points out that pressure for this type of change would be greater with Alternative B than with the other Alternatives. The determination of consistency with the Priority Policies of Proposition M is left to the future review and approval process. The EIR serves its purpose best by indicating, as it does, the different kinds of pressures for development that might be felt, thereby pointing out ahead of time the situation in which special scrutiny of development projects may be needed.

In Volume One, the first sentence in the last paragraph on p. II.29, right-hand column, under "Development in Nearby Areas," is changed to the following:

- **Land use, business activity, and employment**

would change gradually in industrially zoned areas near the Project Area, independent of Mission Bay development.

The third sentence in this paragraph, which continues on p. II.30, left-hand column, is revised to state:

- **The effects on Nearby Areas would vary depending on whether land uses in the Alternatives reinforced or conflicted with land use trends in adjacent industrially zoned areas.**

Also on p. II.30 of Volume One, the second sentence in the last paragraph of the left-hand column, which continues in the top of the right-hand column, is changed to the following:

- **With housing in adjacent parts of the Project Area, Alternative B would probably cause showroom and related activity, as well as small office businesses, to expand further west into industrially zoned parts of the Inner Mission.**

Comments

[On] p. [VI.]B.109 [the EIR states:] "The Mission Bay Alternatives would have different effects in the future on the amount and type of office activity in the areas between the Project Area and the downtown core and also on the mix of other types of activities in those areas."

[On] p. [VI.]B.110 [the EIR states:] "As noted above, by providing large amounts of office space in the Project Area, Alternative A would result in the continuation of relatively low space costs in South of Market office locations.

"Over the longer term, however, Mission Bay development under Alternative A could contribute to increased rent levels in the areas between the Project Area and the Downtown core.

"In Alternative A, pressure to increase rents and convert existing uses to capitalize on the increasingly 'downtown' character of the area would be a longer-term outcome, attributable to the mixed-use character and relatively intense level of activity represented by the land use program for Alternative A."

[On] p. [VI.]B.121 [the EIR states:] "... the Project Area under Alternative A would accommodate business activity and employment that would locate elsewhere in the City (primarily in the various Nearby Areas)."

XV. Summary of Comments and Responses
B. Land Use, Business Activity, and Employment

Supply side economics doesn't work. The comments on page 109 contradict themselves. The South of Market Plan (soon to be approved) will allow up to 8 million square feet of office space. Absorption of that will take two decades under the Prop M guidelines. Alternative A will create economic pressure over the long-term, forcing up rents in the South of Market and forcing out existing businesses. Office space development will have negative impacts within and without the Mission Bay Project Area.

I think also, as this Commission knows the plan for the South of Market and your SSO [Service Secondary Office] proposals at this point in time... there may be some office development that continues to occur in South of Market. And I think that those impacts... need to be addressed in more thorough detail in the Mission Bay EIR, particularly since, if you are going to have that kind of development in South of Market, and as this Mission Bay EIR points out, you won't be able to absorb that for at least 15 years, that there may be no need for office development in Mission Bay whatsoever....

The South of Market, it opens the door for... secondary office space.... And the need in Mission Bay for secondary office space, ... it may be nonexistent.... (Jim Firth, Potrero Hill League of Active Neighbors)

We consider Mission Bay is part of the total area that we call South of Market. And as you know, we are extremely disheartened over the Planning Commission's actions regarding the South of Market plan, and feel, quite frankly, that a certain sense of the central core of South of Market is being sacrificed to the speculative interests of Mission Bay....

In 1987, he [Wells Fargo Bank Chief Economist Joseph Wahed] issued a forecast which said San Francisco can have solid growth. And in the interview he emphasized that the key to San Francisco's growth will be how quickly it completes developments in the South of Market area. If San Francisco completely ignores the South of Market and delays its development because of city politics and city planning ordinances, then we have to seriously revise our forecast, Wahed said. There is just no other space to develop.

Mission Bay contains enough provision for housing and small business, commercial development. I see our central core of South of Market contained in the South of Market plan as a very natural transition corridor between the downtown area, Yerba Buena Center, South

Beach redevelopment area. And here we have this almost city within a city called Mission Bay, which is an entire planned community. And yet the central core is not being allowed to develop properly. It lacks the incentives for small business development and further housing development that follows in a natural line as a transition corridor between all of these areas of development.

I think we are placing our hopes for a more vital economy, for more housing, for more jobs in the Mission Bay area which is... perhaps a long way down the road. We have an opportunity that is not being maximized in the central core. (Tricia James, South of Market Business Association)

Another aspect is that we recently, at least initially, proposed an expanded office use district in the South of Market area. I am wondering what the impact of that would be on Mission Bay and the surrounding area. (Commission Morales)

As a mitigation measure, the rezoning which you're approaching for South of Market is a critical step, and it should be identified as a mitigation measure. Many of us... feel that it is a major bulwark against future impacts of Mission Bay, and that the EIR should note that.... (John Elberling)

Response

The first commenter cites statements in the Mission Bay EIR to support his arguments about planning for office development in Mission Bay and South of Market. A few points need clarification.

There is no internal contradiction in the statements in the EIR, even as cited out of context by the commenter. The statement from p. VI.B.109 of Volume Two is an introduction to the comparison of the different effects of the Alternatives on land use and development in Nearby Areas. The other statements cited are selections from the subsequent discussions of the effects of Mission Bay development under Alternative A on the South of Market area and on development patterns citywide.

With regard to the South of Market Plan, the commenter is incorrect in his assertion that the plan "will allow up to 8 million square feet of office space. Absorption of that will take two decades under Prop M guidelines." As described in the Draft EIR on the South of Market Plan, the Proposal for Citizen Review would accommodate

a total of about seven million square feet of office space by 2000. That would represent an increase of about three million square feet from the total in 1985, not eight million square feet. (See Table 2 and associated text on pp. 73-74 in the South of Market Plan Draft EIR [EE85.463E, August 5, 1988].) Under the South of Market Plan: Proposal for Adoption, there would be less office development potential in the South of Market than there would be under the plan analyzed in the main EIR sections. The commenter has misinterpreted the forecasts presented in the South of Market Plan EIR.

With regard to the question of the "need" for secondary office space in Mission Bay, the commenter is referred to VI.B.: Future Context. That section describes scenarios for office employment growth and increases in occupied office space for each Mission Bay Alternative. The scenarios are based on forecasts of likely demand due to business activity growth.

The forecasts indicate that, over the long term, there will be demand for office space in both the South of Market and Mission Bay. Absorption of that space will take a long time; under the Alternative with the most office space in Mission Bay (Alternative A), that space would not be absorbed until about 2020. There are similarities in the segments of the office market that would be served by South of Market and Mission Bay office development. Thus, the type and amount of office space developed in Mission Bay would affect the timing of absorption in the South of Market as well as the type of office demand accommodated there. There also are differences between the two areas as office locations. Consequently, allowing office development in one area does not mean that you do not "need" office development in the other area.

Comparison of the scenarios for each Alternative indicates what difference office development in Mission Bay makes for office development in the rest of the Downtown & Vicinity. (See Volume Two, pp. VI.B.53-VI.B.63; "Employment Differences Between the Scenarios for Each Alternative" on p. VI.B.67; and pp. VI.B.69-VI.B.75.) VI.O. Growth Inducement summarizes the implications of more or less development in Mission Bay in terms of spillover effects in Nearby Areas (see Volume Two, pp. VI.O.8-VI.O.9).

The Mission Bay EIR describes the implications of the Alternatives for development patterns in the South of Market (see Volume Two, pp. VI.B.109-VI.B.112). At the time the Mission

Bay EIR was being prepared, the South of Market Plan: Proposal for Adoption was not yet published. Notes /57/-/59/, on pp. VI.B.134-VI.B.135 of Volume Two, anticipate some of the land use issues raised by the commenters. One of the important concerns in the planning process for South of Market is the relationship with potential Mission Bay development. Overall development patterns and business location dynamics are of concern, as are land use compatibility issues for blocks adjacent to Mission Bay. The land use questions are subject to actions of the City Planning Commission and Board of Supervisors.

The notes on pp. VI.B.134-VI.B.135 describe how each Mission Bay Alternative would relate to the goals of the South of Market Plan: Proposal for Adoption. They also indicate that land use change in the South of Market depends on more than a plan and zoning.

The intent of the South of Market Plan is to limit office development in that part of the downtown between the C-3 District and Mission Bay. South of Market areas, particularly along Second and Townsend Streets, near Yerba Buena Gardens, and near South Van Ness and the Civic Center, could be attractive locations for new office development and for conversions to office use. Office businesses desiring lower-cost space and a relatively close-in location are the primary sources of demand for office space in those areas. Mission Bay office development would be an attractive substitute location for many of these types of office operations.

Consequently, looking at office activity and development pressure in the Downtown & Vicinity as a whole, including Mission Bay, it would appear that office development pressure in the South of Market area depends to some extent on office development in Mission Bay. If Mission Bay were to accommodate a large amount of new office activity, as would be the case under Alternative A, there would be less pressure for office development in substitute office locations such as those in the South of Market. In other words, Mission Bay office development would absorb much of the demand for space that would otherwise (for example, with Alternatives B or N) result in either demolition for new office development or conversion for office use in the South of Market.

The South of Market Plan and zoning would not absolutely insure against the types of impacts (e.g., pressure for office development and associated changes in land use and the character of the area) of which the commenter warns.

Zoning can control the amount, scale and location of office development. In particular, it can dictate where large office buildings or large concentrations of office space are allowed. Relatively restrictive zoning, such as that proposed in the South of Market Plan: Proposal for Adoption, could result in more pressure to convert space to office use without permits, since areas for legitimate office development are limited. It is not possible to predict the extent of this effect. It is reasonable to conclude, however, that such encroachments of office activity into non-office areas would be greater the more limited the areas for office development South of Market (and in Mission Bay).

With Alternative A, the impact of pressure for office development and conversion in the South of Market would be minimized; therefore the South of Market Plan is not justified as a mitigation measure. With Alternatives B and N, the South of Market Plan is not identified as a mitigation measure because, as described earlier in the Response, the South of Market Plan and zoning do not provide absolute protection against office development pressure in the area. In fact, the Proposal for Adoption, in conjunction with limited office development potential in Mission Bay (as in Alternatives B and N) could result in more pressure to convert space to office use than otherwise would be the case.

Comments

[On] p. [VI.]B.32 [the EIR states:] "A 275-room hotel with meeting rooms and associated trade show space is planned to capitalize on the new identity for this corner [8th and Townsend] of the South of Market Area."

The hotel proposal has been replaced with a Fashion Center building which will add an entire new showroom activity to the area. The expansion (ie. spin-off) development from the introduction of this use has not yet been measured. I would expect that it will be considerable, given the nature of the fashion industry. The physical identity of the 7th and Townsend corner of the Mission Bay project (approx. 11 acres) suggests that the wholesale/design area [to] be considered for that area. (Jim Firth, Mission Bay Clearinghouse)

One of the speakers mentioned the impact of Showplace Square. Now, I assume that some of that has been built into the Environmental Impact Report, although we did recently approve a rather large complex there. I am wondering if the impact of that was included in the

environmental impact review. (Commissioner Morales)

Response

The expansion of showroom activity in the Showplace Square area such as that represented by the planned San Francisco Fashion Center is anticipated and incorporated in the cumulative forecasts for the Mission Bay EIR. From 1985 through 2000, the sales/showroom business activity is expected to have the highest employment growth rate of any sector in the Downtown & Vicinity (see Table VI.B.18 on p.VI.B.55 of Volume Two). The expansion of new types of activity, such as apparel and accessories showrooms, is one of the factors behind that growth forecast. The discussion of Showplace Square in the EIR on pp. VI.B.112-VI.B.113 of Volume Two highlights the expansion of showroom activities in that area and points out that Alternative A would provide options for showroom and related development at the Townsend and Seventh Streets corner of the Project Area.

The change in the planned use for the Eighth and Townsend Streets site does not affect the cumulative analysis in the Mission Bay EIR. The cumulative analysis is not site-specific, and the precise use for the site at Eighth and Townsend Streets was not factored into the analysis directly. At the time the cumulative forecasts were prepared, the proposed hotel was an example of the type of intensification of showroom-related activity in the area and an indication of the strong development potential there over time. The fact that that proposed project has been replaced by another type of development does not affect the conclusion that, over the longer-term forecast period covered by the cumulative scenario, a hotel project or other development designed to capitalize on Showplace Square activity is likely to occur.

In Volume Two, the last sentence in the fourth paragraph on p. VI.B.31, which continues on p. VI.B.32, is revised to state:

- The area has established a strong identity, and the level of activity has increased with expansion of the types of goods exhibited (office furniture, jewelry, gifts, apparel, in addition to home furnishings, fabrics, and fixtures) and the scheduling of trade marts and special events.

The last sentence in the first full paragraph on p. VI.B.32 is deleted.

Comment

The discussion of North Potrero/Potrero (VI.B.32, VI.C.19, VI.C.90, et al.) evidences a detachment from the Project, while the area to the west of the Project is on the proverbial "wrong side of the tracks." The effect of this planned isolation will be amplified by the inward nature of the phasing of the Project, wherein build-out will start in the area around the Channel and slowly proceed south. During the interval before Project completion there will be a no-mans-land of existing or new temporary industrial uses separating, and isolating the Project from any direct contact with neighborhoods to the south and west. (Richard H. Moss, Potrero Boosters and Merchants Association)

Response

The EIR assumptions about phasing are examples of what could occur. The actual phasing of Mission Bay development is one of the issues to be negotiated as part of the Mission Bay development agreement. For analytical purposes in the EIR, the Alternatives are not assumed to develop according to the same phasing scheme. In Alternative A, development begins in the eastern parts of the Project Area and moves west. In Alternative B, development begins in the west and moves east. Page V.29 of Volume Two, Chapter V. The EIR Alternatives and Approval Process, states:

Representing a range of types of development among a range of potential sites was also a factor in specifying the development patterns for 2000.... Although the specific development patterns bear some relationship to the logic of the land use program for each Alternative, they are not meant to preclude other approaches to developing the Project Area.

The presentation of different phasing schemes in the EIR enables consideration of the types of implications mentioned by the commenter. The orientation of the project during construction, along with access, infrastructure requirements, long-term leases, and minimizing construction-related impacts on adjacent areas, are all factors in determining the eventual phasing plan for Mission Bay development.

Comment

I would like the report to also evaluate in greater

detail the effect on the Mission District, in particular, the effect on job growth, population growth, and the associated housing demand in the Mission District.

I have been contacted by residents and businesses, agencies in the Mission, to have the report explore the impact of Mission Bay on commercial rents and on rents in housing generally. Are there any proposed mitigation measures to avoid displacement of residences or businesses in the Mission District?

Some of this information may be in Volume Two. And I have to admit, I have not reviewed that. Nonetheless, the summary, what we have before us today, does refer to Mission Bay affecting the number of neighborhoods in the eastern part of the City. It refers to the Inner Mission and does say that Mission Bay will affect the pace and types of changes that would occur. And to the extent that Volume Two does not specifically address the things that I mentioned, as well as mitigation measures, I would like the report to do so. (Commissioner Morales)

Response

Volume Two of the Mission Bay EIR contains more detailed discussion of Nearby Areas than does Volume One. What is referred to in the EIR as the Inner Mission area encompasses the Mission District, from the James Lick Freeway to Dolores Street on the east and west and from the Central Skyway to Army Street on the north and south.

Existing industrial activity and development trends for the Inner Mission are described on p. VI.B.35. The area's characteristics as a residential neighborhood are described on pp. VI.C.24-VI.C.25. Pages VI.B.65-VI.B.66 describe the expected future land use and development scenario for industrial areas near Mission Bay such as those northeastern parts of the Inner Mission. The effects of the Mission Bay Alternatives on land use and development in the Inner Mission are described on pp. VI.B.112-VI.B.114, and implications for housing and population are described on p. VI.C.92. In addition, the general discussion of implications of Mission Bay development for housing market conditions (pp. VI.C.81-VI.C.86) applies to the Inner Mission. The discussion of how Mission Bay retail activity would affect Nearby Areas (see pp. VI.B.117-VI.B.119) also deals with issues of interest in the Mission District.

In brief, the conclusions are that Mission Bay would not have a major impact on the overall pattern of change expected for the older industrial areas of the Inner Mission, though there would be some variation between Alternatives. Similarly, Mission Bay development would not be responsible for major changes in the residential areas of the Inner Mission. Consequently, no mitigation measures regarding commercial or residential displacement in the Inner Mission have been proposed.

Comments

Our concern is that we weren't contacted. The report is a nice report, but we weren't contacted. And the southeast corridor being right next to the Mission Bay corridor, and the Third Street task force meeting going on now where we are trying to decide . . . [on a] transportation system [to serve the area] . . . the Mission Bay project would affect the rents on Third Street because the property value will go up. There are going to be some problems that we [are] not going to be able to deal with. I think that needs to be addressed if you are going to do just Mission Bay and then forget about the rest of the park going down that part of Third Street.

I just want to know . . . what are you going to do about that park. In other words, you have come through Third Street to get there. There's developing going on there on Third Street and in that section or part of the City, and how can you do a report like that and just overlook that whole section over there. (Mohammed Al-Kareem, Bayview Merchants Association)

. . . [There is] concern . . . [over] the lack of addressing Mission Bay's impacts on the South Bayshore neighborhoods in the Environmental Impact Report. . . . (Pam Sims, Housing Committee of the Bayview Committee)

Response

The South Bayshore area was not ignored in the Mission Bay EIR. Because the Bayview and Hunters Point commercial, industrial and residential neighborhoods are at least a mile distant from the Mission Bay Project Area, these areas were not discussed in as much detail as were adjacent areas such as South of Market, Potrero Hill and Lower Potrero / Central Bayfront. Existing conditions in the South Bayshore area are described in Volume Two on

pp. VI.B.35-VI.B.36 and pp. VI.C.25-VI.C.26. The implications of Mission Bay for land use and development patterns in the South Bayshore area are described on pp. VI.B.113-VI.B.115. Implications for the character of residential neighborhoods and for residents of the southeastern part of the City are described on p. VI.C.92.

The conclusions described in the EIR are that Mission Bay would not have a major impact on the overall pattern of change expected for older industrial areas such as those in the South Bayshore. The South Bayshore area could provide location options for businesses relocating from the Project Area or adjacent areas where new businesses are moving in. Similarly, Mission Bay development would not result in major impacts on South Bayshore residential neighborhoods.

IMPLICATIONS FOR ADJACENT MARITIME ACTIVITY

Comments

It [the EIR] does not forthrightly consider the impact of the Mission Bay Project on present maritime activity. Mission Bay, as currently proposed by the Planning Department, will kill Piers 48 and 50, located just south of China Basin. The EIR intimates as much, but it does not face the issue squarely, and the Department's planners have hitherto naively asserted that the Piers will remain in maritime operation after their backland is taken away, after they are crowded by park land and playing fields abutting on China Basin Street, and after housing is built close by. But when they are thus isolated and choked off, the two piers will soon die on the vine. They will perhaps survive for a number of years as limited-use warehouses. It is doubtful whether ship repair operations at Pier 50 will long continue. And it is certain that never again will the Piers play any vital cargo-handling role in the operation of the Port. They will simply not be marketable for that use.

At page II.29 the EIR states: "The housing, open space, and commercial development proposed in Alternatives A and B would not be compatible with active maritime operations in the Project Area or on adjacent piers. Moreover, with a mixed-use or residential community in Mission Bay, the piers would become increasingly valuable for commercial and recreational development."

One is left to infer that the Planning Department at long last acknowledges that Mission Bay, as presently proposed, will sound the death knell of Piers 48 and 50. If the planners believe that to be the case, why do they not say so candidly and then try to estimate the consequences to San Francisco of that loss? (Jack Morrison, San Francisco Tomorrow)

. . . The Port's experience with finger piers on the northern waterfront similarly isolated should be instructive. If the backland is yielded up to Mission Bay, the piers will never again play any vital cargo-handling role in the operations of the Port. In that capacity they will not be marketable. They will linger on for a few years as warehouses. And then perhaps after a time Pier 50 will drop like a ripe plum into the maw of the Mission Bay developers. It would make a fine site for a hotel. (Waterfront Committee, San Francisco Tomorrow)

On page II.29 and elsewhere in the report, it is claimed that housing, open space, and commercial development are not compatible with active maritime operations. However, there are a number of examples around the country that indicate that if there is sufficient room for the maritime uses to operate and with appropriate noise and visual buffers, such uses are not necessarily incompatible. Jack London Square is just one example of adjacent maritime and commercial uses. (William Travis, San Francisco Bay Conservation and Development Commission)

[On] p. [VI.B.]115 [the EIR states:] "Operations involving substantial truck traffic and/or noise and facilities that continued operating at night would be incompatible with adjacent residential and open space development."

Please explain how night time traffic is incompatible with open space? (Jim Firth, Mission Bay Clearinghouse)

Response

The Comments above all address the question of the compatibility of maritime activity with development of the type proposed for Mission Bay in Alternatives A and B. The commenters offer conflicting views. One group reinforces the conclusions of the EIR that a new residential neighborhood, open space, and commercial development east of Third Street in Mission Bay would not be compatible with active maritime operations on adjacent piers. The other suggests that the uses could coexist. The EIR describes

how Mission Bay development could limit active maritime operations on adjacent piers over the long term.

In Alternatives A and B, the relatively low level of activity now taking place on the piers (ship repair and occasional bulk cargo transfers) could continue, but probably would not increase. Over the long term, the level of maritime use might decline as the piers became more valuable for commercial or recreational development, although alternative commercial uses would be subject to regulations limiting waterfront development. As noted by the commenters, that has been the pattern along the waterfront to the north, as downtown commercial and new residential development, changes in cargo handling technology, and transportation conflicts have combined to change the land use character along The Embarcadero.

There are several reasons why the EIR concludes that active maritime operations are not likely to be compatible with adjacent residential, and commercial development over the long term. From the perspective of the maritime operations, more-intensive residential and commercial development brings more traffic congestion which impedes access and adds time and costs. New residents and businesses with a stake in maintaining an attractive environment would be likely to work against any increase in maritime activity that might have negative consequences (e.g., lights, noise, truck traffic, hazards). This could mean unwelcome limits on types and/or hours of operation for maritime activities. Moreover, development such as that envisioned for Mission Bay under Alternatives A and B also would reduce the supply of underutilized and vacant land that now can be used as needed for equipment or goods storage, or parking.

One commenter cites the example of Jack London Square in Oakland and notes that with adequate room to operate and with noise and visual buffers, maritime use is not necessarily incompatible with residential and commercial development. While that may be true, the necessary conditions that would provide adequate separation of active maritime from commercial and residential development are not expected at Mission Bay under Alternatives A and B. At Jack London Square, active terminals or ship repair facilities are not directly across the street from hotel, office and tourist commercial development. Moreover, there is no housing at Jack London Square. The close proximity of maritime to non-maritime uses that would be the case with Mission Bay under Alternatives A or B does not exist at Jack London Square.

The EIR states that relatively low-scale maritime uses similar to those that currently exist on the piers adjacent to Mission Bay could continue for some time (see Volume Two, pp. VI.B.115-VI.B.117). How long that period might be is difficult to determine. Assuming appropriate access to the piers was maintained and the Mission Bay neighborhood accepted adjacent maritime operations as part of the local environment, then the two could coexist indefinitely. Ultimately, for market, access or technological reasons, other locations for the maritime operations might be preferable to the piers adjacent to Mission Bay. Moreover, in the long-term future, the potentially higher value of these waterfront properties for other uses (subject to local, regional and state agency approval) could precipitate their conversion from maritime use.

IMPLICATIONS FOR LONG-RANGE PORT PLANNING AND DEVELOPMENT

Comments

It is, and long has been, the position of the Waterfront Committee and San Francisco Tomorrow that the Mission Bay Project should be confined to lands west of Third Street. The land areas east of Third that are presently included in Mission Bay planning should be reserved for maritime and maritime-related uses and, ultimately, for maritime expansion....

It [the EIR] ignores the regional maritime responsibilities of San Francisco. The EIR attempts to consider the Port of San Francisco in a vacuum. That is unwarranted. The Port is an element in a regional system. It is only after a commercial shipping line decides to call upon the Bay Area that it is put to the question whether to patronize the Port of San Francisco, the Port of Oakland, or another port on the Bay. It is the Bay port system that competes with other ports on the Pacific Coast. Thus it is foolhardy to sacrifice deep-water terminal sites at China Basin, as EIR Alternatives A and B contemplate, without a thorough investigation of the regional issues involved as well as the San Francisco issues. It is the position of San Francisco Tomorrow that the loss of those deep-water sites will strike at the competitiveness of the Bay system as a whole.

It [the EIR] disregards the long-term interests of the Port. The EIR takes a severely limited view of Port needs. It assumes that the cargo handling capability envisioned for San Francisco in the Bay Area Seaport Plan is all that San Francisco

has to be concerned about. But it must be remembered that the Seaport Plan sought to insure a capability adequate to the need up until the end of the century and perhaps a few years after that. It is true that the need in San Francisco in the short run could be met, though not as efficiently, through further development of terminal sites not at China Basin but farther to the south. Perceiving that to be so, the Planning Department has jumped to the entirely unwarranted conclusion that the Port is therefore justified in giving up the Mission Rock site at China Basin. That conclusion turns a blind eye to the long-run needs of the Port and of the maritime industry in the Bay Area. The Port must take into account the demands on shipping facilities that will occur well into the next century. It would be irresponsible to preclude by actions taken today any possibility of meeting the needs of 40 or 50 years from now. Yet the framers of the EIR appear ready and willing to sacrifice the future to the pressures of the moment.

There is another matter that must be taken into account under this head. The present master plan of the Port of San Francisco is based on an objective of capturing 25 percent of the containerized traffic in the Bay. That objective may soon be thought to be too modest. We have recently seen evidence of the growing difficulty of maintaining deep-water channels in the naturally shallow waters of the East Bay. The question how and where to dispose of the spoil of dredging is the main source of the difficulty. But we can also expect in years to come a shift in the expense of dredging from the federal government to the ports that are served. With shallow-water ports suffering these disadvantages it may shortly be desirable for the Port of San Francisco to set out to capture a greater proportion of Bay containerized traffic, especially since the trend in the industry is toward larger ships drawing more water. Suppose San Francisco aspired to handle 40 or 50 percent of Bay traffic. In that eventuality the maritime assumptions underlying the EIR would be quite irrelevant. In fact, those assumptions are consistent only with a defeatist attitude toward the future of the Port of San Francisco.

It [the EIR] deceptively holds out the prospect of a land swap as a reasonable solution to Port needs. The proceedings with respect to a proposed swap of lands between the Port and Santa Fe Pacific Realty Corporation have without any justification been conducted in secret, so that it is hard for members of the public to judge them. But the main lines of the negotiations are clear. Under a scheme assiduously promoted by

the Planning Department, certain Port lands near China Basin would be traded for lands acquired by Santa Fe Pacific in the Warm Water Cove area. The idea is to shift Port growth to the south and free up waterfront land at China Basin for exploitation by the Mission Bay developer. We have pointed out above why it would be short-sighted and irresponsible for the Port to trade away its China Basin land. In our opinion it is a cardinal defect of the EIR that it seeks to disarm criticism of the proposed raid on Port land with the bland assertion that a swap of land will repair the damage.

Two years ago, soon after the Planning Department released its study entitled Container Terminal Options, San Francisco Tomorrow wrote at some length about the proposed swap and the issue of Port expansion in San Francisco. We find the arguments that we submitted in a paper entitled Container Terminal Planning: Sham or Common Sense to be as relevant now in considering the EIR as they were then. . . . (Jack Morrison, San Francisco Tomorrow)

. . . Mission Bay must make itself compatible with the optimum maritime development of the Port of San Francisco. . . .

. . . It is clear to us that the Department has not so far asked the right questions. The Department has asked, to put it briefly, whether the cargo handling capability of a container terminal in the Warm Water Cove area could be made to equal the capability of terminals that might be built farther north, adjacent to Mission Bay. Provided the requisite land could be assembled at Warm Water Cove, . . . the Container Terminal Options study came up with the obvious answer. But the Planning Department now wishes to jump to the further conclusion that the City is therefore justified in giving up the northern land. And this further conclusion entirely disregards the long-term needs of the Port and of the maritime industry in the Bay Area. It must be kept in mind that the Port's present master plan is a response to a Bay Area Seaport Plan which sought to project shipping terminal needs through the year 2000. Surely the Port and the City ought to plan for demands on their shipping facilities that will occur well into the next century. It would certainly be irresponsible to preclude by actions taken today any possibility of meeting the needs of 40 or 50 years from now, assuming that needs will grow. . . . San Francisco Tomorrow wishes to assert the importance of looking out for the long run. And we wish to assert that the Planning Department . . . would do well to consider the following questions:

1. How much of the containerized shipping traffic in the Bay does the Port of San Francisco seek to capture 10 years from now and 15 years from now? The present master plan is based on an objective of capturing 25 percent. Suppose the Port sets out to capture 50 or 60 percent. What are the consequences for the Port's program of new marine terminal development?
 2. What are the likely long-term demands on the Bay Area port system, of which the Port of San Francisco is a part? Long-term trends in maritime traffic can never be deduced with perfect surety. But it is important to gauge the probabilities as accurately as possible so that planning decisions may have some rational basis. Does the Planning Department accept the cargo projections of the Army Corps of Engineers, as set forth in the Bay Area Seaport Plan?
 3. What are the trends in the maritime industry with respect to the necessity for deep-water terminal facilities? If the move toward larger ships drawing more water continues San Francisco's port, with naturally deep water, will gain an advantage over the others in the Bay port system.
 4. At what point will it be more efficient and more economical to build and operate deep-water terminals in San Francisco rather than in the East Bay? The deeper channels to the East Bay have to be the more difficult and the more expensive the necessary dredging becomes. At the same time there is a move at the federal level to transfer at least a part of the dredging cost, hitherto borne entirely by the federal government, to the ports that are served. And ports that have to recover a large dredging cost will be at a competitive disadvantage with ports that do not.
- . . . The Port of San Francisco is an element in the regional system, and it cannot be judged in isolation, as the Planning Department presumes to do. . . .
- . . . [A]ny action that brings down the capability of San Francisco strikes at the marketability of the whole system. This consideration will become critical as reliance on the deep-water resources of San Francisco becomes more and more central to the survival of the Bay system as a world port. Between 1978 and 1985 the San Francisco Bay's share of container traffic on the West Coast fell from 31 percent to 21 percent. We believe that any plan to recapture a larger portion for the Bay and guarantee the retention of

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it over the long range will have to depend more and more on San Francisco as the years go by.

. . . [T]he Port of San Francisco is one of the few places in the nation where it is relatively easy to construct a marine terminal with 50 feet of water alongside the wharf. The Port's deep-water terminal sites are regional, and indeed national, resources of great value. Many of them are now lost to future development because of inadequate backland for container operation. To fritter away any of those prime sites for shipping development south of China Basin would be a high crime. . . .

. . . [I]t is not at all obvious that the necessary land could be assembled [to build a container shipping terminal in the Warm Water Cove area]. Three sizable land areas are involved: the old Western Pacific property next to Pier 80, consisting of 41 acres; the PG&E Potrero Plant property, consisting of 42 acres; and another area lying in between those two, which consists of 36 acres and is in a half dozen or so ownerships. Acquisition of the Western Pacific property should be a straightforward matter of negotiation or condemnation. The in-between parcels would present a harder problem. Perhaps they could be acquired by one of the two processes, but the problem has not been investigated, and so no one knows what difficulties might be encountered. Under the six- and seven-berth alternatives presented in the study report [Container Terminal Options] the electric generating plant would be allowed to stand, and the Port would build around it; but the plan nevertheless calls for the acquisition of about half the PG&E property, the "non-operational" part, amounting to approximately 20 acres. Here the Planning Department and the Port will almost certainly run into insuperable obstacles. The utility does not want to give up any of its land. It expects to expand its Potrero Plant operations, not in land area, but in the output of the facility. Because of their hurtful effect on PG&E operations we do not think that any of the six- or seven-berth alternatives at Warm Water Cove will ever be built. The kindest thing that one can say about them now is that they are highly speculative.

And a speculative project will not be good enough to satisfy MTC and BCDC. These agencies have put the Port and the Planning Department on notice that they will require iron-clad assurances of the feasibility of any Warm Water Cove proposal submitted as a substitute for development at Piers 48 and 50. Such assurances cannot now be given. In view of that, the sooner the Planning Department's grandiose scheme is laid to rest the sooner San Francisco can get on with a reasonable plan for container-terminal expansion.

Even if we were so credulous as to believe that a six- or seven-berth proposal could be approved, could we at the same time be assured of economic feasibility? Is it the Planning Department's position that the railroad is ready to pungle up the money to pay for the 97 acres of required waterfront land? If not, what happens to the inventive idea of a land swap? The question how shipping terminal expansion on the southern waterfront is to be financed is difficult and challenging. It merits lengthy discussion. Suffice it to say here that it is quite unlikely that the railroad will lead the Port out of the fiscal wilderness. A land swap would not solve the problem, because the problem is not essentially one of land availability.

At this point it might be appropriate to see where common sense would lead us in thinking about container terminal options. It should be clear to all that the building of new container facilities either at Mission Rock or Warm Water Cove is not just now a matter of urgent priority. The future of the Port between now and the end of the century lies south of Islais Creek. And the first phases of the Port's master plan call for completion of the San Francisco Container Terminal there. What the Port must do as soon as possible is to carry out Phase I, the building of Piers 90 and 92, and then to proceed with Phase II, the building of Pier 88. These facilities, together with the Intermodal Container Transfer Facility, will give the Port its best short-run chance for continued vitality and growth. Yet the Port has been dragging anchor on the 90-92 project. And it now appears that even this Phase I would not be completed much before the middle of the 1990s, keeping in mind that we must allow for a six-year lead time between the application for a BCDC permit for a berth and the completing of its construction. At all events, after accomplishing the San Francisco Container Terminal it would only be common sense for the Port to turn to the expansion of Pier 80. Acquisition of the Western Pacific property has been under discussion at the Port for six or eight years. It is important that it be added to Pier 80 as soon as the Port can do so. That accession, as is pointed out in Container Terminal Options, will enable the Port to achieve a high-performance, three-berth terminal. After that, we believe, common sense will direct that the Port undertake development of the Mission Rock terminal at Piers 48 and 50. It would seem wise at this stage to plan only for a three-berth facility, instead of the currently proposed five, at this location, with 40 acres of back land per berth.

We submit that here is a reasonable, achievable program for container-terminal development: Build three new berths south of Islais Creek so as

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to complete the San Francisco Container Terminal; add the Western Pacific Property at Pier 80 and effect a modern, three-berth terminal there; and then build a new three-berth terminal at Mission Rock. Considering the delays in accomplishing Phase I of the master plan and the general lack of movement at the Port, we have to conclude that even with a new birth of energy it will be well after the turn of the century before the reasonable building program we have outlined can be realized. We must reconcile ourselves to the fact that it will be at least 10 or 12 years before a start can be made on the Mission Rock Terminal. But if the course of action we advocate is followed, Pier 50 will be open to an interim shipping use of great value. It can be fitted out with a container crane and be used to accommodate combination cargoes that now go to Pier 80, thus freeing up the latter pier for a much more efficient handling of containers. (Waterfront Committee, San Francisco Tomorrow)

It is important to maintain and expand the maritime capabilities of the project area east of Third Street because it will allow us to compete aggressively for a larger future market share of ocean cargoes as both a port and collectively as a region. To that end this area is vital.

Projections for cargo movements through West Coast ports state that tonnages and net values (in today's dollars) may quadruple by the year 2000 and continue to increase through 2020. Much of that cargo will pass through bound for eastern markets. All things considered, this cargo will be up for competitive grabs depending on a combination of circumstances: available rail access, dockage and wharfage fees, and time and dray costs to rail yards. These projections have generated considerable interest up and down the Coast. Port facilities are being contemplated today in places like Vallejo, Pacheco, and of course Pittsburg.

San Francisco Bay is fourteen hours closer to the major Asian trade routes than the Los Angeles Harbor and lies on a more stable winter weather route than Seattle, Tacoma, and Portland. In the worst of conditions, we are fourteen hours farther along any major Asian route than the Pacific Northwest Ports we compete with on the other end of the Coast. Although there is no direct rail route from the Bay Area to Houston or New Orleans, the congested roadways, rail transfer delays, and added expenses in the Los Angeles Harbor area, not to mention the fourteen hours closer we are to those export markets, make the 500 additional rail miles from the Bay Area not such a large consideration.

Rail mileage from West Coast ports to the eastern rail heads of Chicago, Kansas City, and St. Louis vary by from 120 to 200 miles which equate to as many as four hours rail time at a standard 50 m.p.h. Under today's existing conditions that is not enough to delay same-day delivery at any major rail facility.

In my opinion, re-zoning east of Third Street area is tantamount to a plant closure. From the viewpoint of maintaining a working waterfront whether that area lies fallow or not is of no consequence. The ability to respond to maritime market conditions is critical to the quality of life that many of us are accustomed to and should be basic to the design of these projects.

There are lots of jobs and money involved in every aspect of trade. The successful ports of tomorrow should not say, "when or if," but rather "how" they will thrive because of the foresight and vision of their community's anticipation of future maritime opportunities.

Marine terminals in the Bay Area will have to expand to compete against other ports for cargoes which will (notwithstanding drastically restrictive legislation) continually increase in volume. There will be a large enough local import market in the Bay Area and I-80 corridor to attract first or only port-of-call trade if dock facilities and rail connections are modern and convenient. Direct transfer to rail will be the competitive edge in both the near future and the long haul as will be container back up storage and rail transfer availability. The Mission Bay Area Plan in question is extremely well-suited for that.

Even aggressively maritime oriented ports like Oakland will be unable to service the available trade encouraging cities like Richmond and Benicia to make maritime related capital improvement commitments.

A combined effort by the respective port authorities to structure reasonable wharfage and dockage charges, the railroads to continue their commitment to price Bay Area rail service comparably with Southern California and the Pacific Northwest, local maritime labor and management to maintain our reputation for high productivity, and the continuing availability of our greatest natural resource, our waterfront, will ensure that the Bay Area gets its share of the jobs, tax base, revenues, and the vitality of a thriving and growing community.

Designating the area east of Third Street for other than port-related general waterfront usage

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will deprive us of a vital port resource and means a conscious commitment to move in another direction. There must be a way to incorporate a strong commitment to a working waterfront into the Mission Bay Plan along with addressing the critical issues of housing and employment opportunity. (Brian McWilliams, Ship Clerks' Association, Local 34)

... It is completely feasible to build Mission Bay as a neighborhood and at the same time protect the Port.

The land east of Third Street must be reserved for maritime related uses, port uses. The policy of San Francisco must be to maintain a viable port. The Mission Bay development does not depend on the land east of Third Street. But the economy of the City demands that port use continue on the central and southern waterfront.

The current EIR alternatives kill Piers 48 and 50, immediately south of the China Basin channel. The EIR ignores the regional responsibilities of San Francisco. The Port is a part of the regional system. The EIR disregards the long-term interest of not only the Port, but the region.

Deep water harbors are the future for port strategic planning. The EIR asserts that a land swap will solve the problem. San Francisco Tomorrow, among others, disagrees. It is feasible, economically justified, and strategically necessary to protect the Port and at the same time build Mission Bay. The U.S. Navy and world shipping lines are moving towards the strategic necessity of deep water ports. San Francisco's natural deep water harbor . . . will gain an advantage over others in the bay port system as this trend continues. The bay port system competes with others on the Pacific Coast.

Any action that brings down our port hurts the region. Reliance on the deep water port of San Francisco is critical to the survival of our bay as a world port. (Gary Shawley, Potrero League of Active Neighbors)

[On] p. [VI.]B.67 [the EIR states:] "Growth and expansion of downtown-type activities and associated effects (changing character of waterfront areas, increasing land values along the waterfront, and congestion) will discourage maritime operations and maritime-related businesses from locations to the north.

"Given that outlook, maritime-related activity in the Project Area is assigned for this EIR to decline slowly over time."

[On] p. [VI.]B.101 [the EIR states:] "In Alternative A, a small amount of land (6.5 acres) is designated for port-related use east of Third Street. The size of the area, its configuration and its location adjacent to residential development on one side and major open space on the other make it unlikely that active maritime use could function efficiently there."

Again we are faced with a policy question and no plan. The City and this Administration will say whether the Port of San Francisco should continue or die in the central waterfront as a result of the zoning decisions for Mission Bay. We've seen what's happened to the Northern waterfront. Forecasts for cargo handling through the Bay Area and where facilities will be located must be addressed in this EIR, if an intelligent decision is to be reached about the future of the SF central waterfront. The diversification of San Francisco's economy depends upon an active port. . . .

[On] p. [VI.]B.95 [the EIR states:] "For many Project Area maritime-related operations, East Bay locations near the Ports of Oakland or Richmond could be location options that made sense from a business perspective."

Death to the Port of SF and with the apparent blessing of this type of statement in the EIR. Again, what are the forecasts for container and break-bulk cargo operations to the Bay Area through the year 2020?

[On] p. [VI.]B.96 [the EIR states:] "Providing for the continued operation of maritime-related activities in the City might require public agency involvement and planning since those businesses have little flexibility in locations and may require special facilities or infrastructure: the future for the City's overall maritime program may depend on retaining some of those operations on Port of San Francisco property."

[On] p. [VI.]B.99 [the EIR states:] "Under Alternative A, businesses that support the City's maritime industry would not be accommodated in the Project Area over the long term."

Clearly, the City must decide if it wants to maintain maritime and maritime related activities in SF. Plan A or B without variation would have a devastating effect on the economy of SF. . . .

[On] p. [VI.]B.103 [the EIR states:] "Alternative N. The port-related part of the designation reflects intent to reserve that part of the Project Area for potential container terminal development in the longer-term future (beyond the time horizon for build-out in the EIR).

"In terms of new development, some interim non-maritime activities would be allowed but only those that would not interfere with the longer-term plan for container terminal development."

The existing bulk and specialized cargo handling at Piers 48 and 50 will continue and expand if they are not interfered with. There is now and will continue to be a need for specialized cargo handling facilities at Piers 48 & 50. There will also be a need to expand container facilities further south by the year 2020. San Francisco's central and southern waterfront must be reserved for maritime and maritime-related employment to balance the economic diversity of the City. . . .

[On] p. [VI.]B.116 [the EIR states:] "The ship repair facility only operates during the day and there are days when there is no activity going on at all. A relatively low level of maritime activity such as that could continue for some time adjacent to Mission Bay. As housing was occupied and a residential neighborhood established across China Basin Street, it would become increasingly difficult for maritime uses to co-exist with Mission Bay development [however].

"In addition, once Mission Bay developed into a mixed-use community, piers east of the Project Area would become more valuable for commercial and recreational development.

"Over the long term, the result could be pressure for development of the piers for non-maritime uses.

"If it turned out that the level of activity in those maritime operations was incompatible with nearby Mission Bay development under Alternative A, then relocation of those activities within San Francisco could be a problem.

"With Mission Bay development under Alternative A and with eventual container terminal development and expansion south of the Project Area, it might be difficult for specialized bulk cargo operations to continue to operate in the City."

The policy of San Francisco must be to maintain a viable Port. The Mission Bay development does not rely on the area east of 3rd Street, but the economy of the City demands that maritime use continue in the central and southern waterfront. (Jim Firth, Mission Bay Clearinghouse)

The Mission Bay project site includes land now designated for container terminal use in the Seaport Plan. The EIR should note that this land may not be available for other than port-related uses.

The Port of San Francisco has requested that a new marine terminal site be designated in the area between Piers 70 and 80 to replace the site in Mission Bay (site 44A at Piers 52-64). The replacement site would accommodate the same number of berths as the Mission Bay site and has some advantages over it.

However, the Seaport Planning Advisory Committee staff notes that unless the Port can obtain sufficient backland in the Pier 70 to 80 area to make two additional container berths feasible there, then this Mission Bay site should be retained as a marine terminal in the Seaport Plan. The proposed terminals at Piers 70 to 80 may prove infeasible either physically or financially. In addition, future demand for port-related purposes, such as the existing ship repair and commercial fishing facilities, may necessitate a port priority use designation at the Mission Bay site. (Chris Brittle, Metropolitan Transportation Commission)

Response

While the Mission Bay EIR was being prepared, the BCDC and the Metropolitan Transportation Commission (MTC) began their review and update of the San Francisco Bay Area Seaport Plan. Consultants were retained to update the regional cargo forecasts and the estimates of regional terminal capacity. The Seaport Planning Advisory Committee was reestablished to make recommendations on proposed revisions to the Seaport Plan. The review process is now complete and the recommended revisions to the Seaport Plan were the subject of public hearings before BCDC on February 16, 1989. On March 16, 1989, BCDC approved amendments to the Seaport Plan, including provisions related to container terminal development in San Francisco. (See XV.A. Public Plans, Policies and Permits, pp. XV.A.1-XV.A.5.) The conclusions of the Seaport Planning Advisory Committee and the rationale for the Seaport Plan revisions in San Francisco are summarized below.

The commenters ask questions about the regional cargo forecasts, where facilities will be located, and San Francisco's role in the regional port

system. For answers, the commenters are referred to the BCDC January 13, 1989 Staff Report, and the revisions to the San Francisco Bay Area Seaport Plan, prepared for the MTC and BCDC, 1988, both on file at the Department of City Planning, 450 McAllister Street. Both documents summarize the revised regional cargo forecasts through 2020 prepared by Manalytics, Inc. and the WEFA Group, and present the projected demand for additional terminals in the Bay Area region. More detail is contained in two reports prepared by Manalytics, Inc.: The Competitive Position of Bay Area Ports, A Report to the Metropolitan Transportation Commission, July 1987, and San Francisco Bay Area Cargo Forecast to 2020 and the Future Demand for Marine Cargo Terminals, A Report to: The Metropolitan Transportation Commission, the San Francisco Bay Conservation and Development Commission and the Seaport Planning Advisory Committee, October 5, 1988. Both are on file at the Department of City Planning.

As part of the Seaport Plan update process, the Port of San Francisco along with two other public agencies submitted requests for changes to the Plan. The Port of San Francisco's request was that a two-berth, near-term marine terminal site be added at Warm Water Cove (Piers 70-80 vicinity) and that the two-berth, near-term marine terminal site at China Basin (Piers 52-64) be deleted along with the associated Port-Priority Use Area. This request represents the land exchange and assembly identified in the Mission Bay EIR that would substitute future container terminal development in the area of Piers 70 and 80 for future container terminal development at Mission Bay.

On January 13, 1989, BCDC submitted its staff report and preliminary recommendations on proposed revisions to the Seaport Plan. That report presents conclusions directly relevant to the questions raised by the commenters. The BCDC Staff Report is supported by a September 21, 1988 memorandum from the Port of San Francisco to MTC providing information relevant to the proposed transfer of the marine terminal designation./5/

For the Seaport Plan review, additional investigation relevant to the transfer was undertaken by Manalytics, Inc., under the supervision of a working group of representatives of BCDC, MTC, the Port of San Francisco, the Department of City Planning, and the Mayor's Office. This investigation determined that the proposed "replacement site" near Piers 70-80 would accommodate the number of berths and backland of the Pier 52-64 site."/6,7/

The Seaport Planning Advisory Committee and staff concluded that the replacement site would have significant advantages over the Pier 52-64 site. Among those are the ability to be used in concert with other nearby container terminal facilities to provide for more flexible and efficient cargo handling. The replacement site could take advantage of existing intermodal infrastructure at Piers 80 and 94-96. The Port would benefit from lower costs and greater cargo throughput. In addition, the replacement site would take better advantage of San Francisco's naturally deep water. The equivalent facility could be developed at Warm Water Cove with less fill, and dredging requirements, both initially and ongoing, would be less at the replacement site compared to those at the site at Piers 52-64.

Before deleting the designation of a two-berth, near-term marine terminal at Piers 52-64, the Advisory Committee and staff considered whether the site should be retained as either a container or non-container terminal to meet regional demand. They concluded that it would be difficult and costly to acquire, develop and operate a container terminal at Piers 52-64, and that by designating additional berths in the Pier 70 to 80 area and obtaining sufficient backland to make the terminals feasible, the existing number of designated marine terminals in San Francisco would be retained with no reduction of the regional inventory of terminal sites (more detail is contained in the BCDC Staff Report /8/, and Wiederhorn memorandum /5/). Further, it was concluded that the designated area at Piers 52-64 is not needed for non-container terminals (for dry bulk, liquid bulk, or neo bulk cargoes) in the future because there are presently sufficient identified sites to accommodate such demand and that, even if needed, a new non-container terminal at this site is not appropriate or feasible for a variety of reasons including: access problems; unusually high land assembly, terminal construction and dredging costs; displacement of existing port-related uses and public access and recreational uses; operational conflicts with other maritime uses; and conflict with emerging residential, recreational and commercial land uses to the west./3,9/

In considering the transfer of the marine terminal designation, the Seaport Planning Advisory Committee and staff expressed concern that the change not be made until there are assurances that a terminal in the area of Piers 70 and 80 is realistic and feasible. Specifically, the BCDC Staff Report states that:/3/

The Advisory Committee and staff believe that site 44A [Piers 52 to 64] can be deleted as a marine terminal and most of the

surrounding area can be deleted from port priority use designation without having to undertake a full review of the Seaport Plan only if the Port can obtain sufficient backland in the Piers 70 and 80 area and can prevent significant non-port development within the port priority use area not in its ownership such that these two container berths can feasibly be developed in the future.

To accommodate continued port-related operations at Piers 48 and 50 adjacent to Mission Bay and along the northern waterfront, the Advisory Committee and Staff recommended that, under all circumstances, port-priority use designation be retained for an approximately 6.5-acre area adjacent to the piers, as well as along the bayward shoreline and along China Basin Street for vehicular and rail access.

To implement these recommendations, specific changes to the Seaport Plan have been adopted that identify the changes to be made in marine terminal designations in the areas of Piers 52-64 and Piers 70-80 and the specific conditions to be met before those changes would become effective. (See XV.A. Public Plans, Policies, and Permits, pp. XV.A.1-XV.A.2.)

Thus, as described above, many of the issues raised in the Comments were addressed in the process of updating the Seaport Plan and specifically considering changes in the marine terminal designations in San Francisco. This process and the analysis done for it focused on both specific terminal sites in San Francisco and the broader regional perspective. Further, consideration was given to both the near-term and longer-term perspectives. From a longer-term regional perspective, the conclusion of the consultants' analysis for the Seaport Plan update was "that the total inventory of available sites (near-term, long-term, and water-related industry) will provide enough berths and backland to accommodate the demand for port terminals through 2015."/10/ As summarized above, the transfer of marine terminal designations in San Francisco would not reduce the regional inventory of terminal sites or affect this overall conclusion.

In Volume Two, p. VI.B.102, the first full paragraph is revised, as follows. The second sentence of this paragraph is deleted.

- Future container terminal development adjacent to the Mission Bay Project Area would require backland that would extend into the Project Area east of Third Street./51/ Alternative configurations for the container terminal would require substantially more of

the east-of-Third-Street area than is designated for port-related uses in Alternative A./52/ Consequently, Alternative A development of the Project Area east of Third Street would preclude future container terminal development there.

In Volume Two, p. VI.B.102, the first sentence of the second full paragraph is revised to state:

- It is possible that land exchange involving SFP, the Port of San Francisco and land in the vicinity of Piers 70 and 80 could occur enabling designation of the area to the south of the Project Area between Piers 70 and 80 as a container terminal site to substitute for the loss of the site adjacent to Mission Bay.

In the third sentence of this paragraph, the phrase "involving the Mission Rock / Pier 50 terminal outlined in the Port's current master plan" is deleted. This sentence, as revised, states:

- Consolidated container operations in the south could result in more efficient operations overall than would the more-dispersed development program.

The next two sentences in this paragraph are deleted, and the following new paragraphs are added. The reference mark for note /53/ is moved from the end of the third sentence to the location shown below.

- As part of the San Francisco Bay Area Seaport Plan update process undertaken in 1988-1989 by the Bay Conservation and Development Commission (BCDC) and the Metropolitan Transportation Commission (MTC), the Port of San Francisco submitted a request for changes to the Seaport Plan to implement the substitution described above. The Port's request was that a two-berth near-term marine terminal site be added at Warm Water Cove (Piers 70-80 vicinity) and that the two-berth near-term marine terminal site at China Basin (Piers 52-64) be deleted along with the associated Port-Priority Use Area.

BCDC and MTC approved revisions to the San Francisco Bay Area Seaport Plan on March 16, 1989. The revisions were adopted on the recommendation of the Seaport Planning Advisory Committee after the Bay Area cargo forecasts and estimates of regional marine terminal capacity had been analyzed and updated to reflect recent conditions and the current outlook for future trends.

The revised Seaport Plan adopted in March 1989 incorporates the Port of San Francisco's requested changes conditional on certain guarantees before the marine terminal designation can be deleted for the site at Piers 52-64. See VI.A. Public Plans, Policies, and Permits, p. VI.A.19 (in this document, see pp. XV.A.1-XV.A.2), for more discussion of the changes to the San Francisco Bay Area Seaport Plan relevant to Mission Bay and for full description of the conditions attached to the amendment./53/

If those conditions are not met and the designation of Piers 52-64 as a near-term marine terminal site remained in effect, then Mission Bay development under Alternative A would reduce overall capacity for future container cargo handling in San Francisco. See Chapter V. The EIR Alternatives and Approval Process, p. V.42 (in this document, see p. XV.A.5), for a discussion of regional and state approvals related to the land exchange and Seaport Plan revision.

In Volume Two, p. VI.B.103, the phrase "at Mission Rock / Pier 50" is deleted from the end of the second sentence in the first complete paragraph. This sentence, as revised, states:

- Since the alternative container terminal configurations all would require some if not all of the area east of Third Street for backland, Alternative B, with none of that area designated for port-related use, would preclude future container terminal development.

The third sentence in this paragraph is revised to state:

- With a land exchange and designation of the area between Piers 70 and 80 as a container terminal site, there would be a substitute for the loss of the site adjacent to Mission Bay.

The fourth sentence in this paragraph is deleted and replaced with the following:

- The revised Seaport Plan adopted in March 1989 incorporates the Port of San Francisco's requested changes for designation of a marine terminal site in the vicinity of Piers 70-80 and deletion of the designation of the marine terminal site at Piers 52-64 near Mission Bay, conditional on certain guarantees. See VI.A. Public Plans, Policies, and Permits, p. VI.A.19 (in this document, see pp. XV.A.1-XV.A.2), for more discussion of the changes to the San Francisco Bay Area

Seaport Plan relevant to Mission Bay and for full description of the conditions attached to the amendment./53/ If those conditions are not met and the designation of Piers 52-64 as a near-term marine terminal site remained in effect, then Mission Bay development under Alternative B would reduce overall capacity for future container cargo handling in the City.

In the first paragraph after "Alternative N" on p. VI.B.103, the third sentence is revised to state:

- All alternative configurations for a container terminal adjacent to Mission Bay could be accommodated if the area east of Third Street were available for terminal development./52/

The last sentence in the last paragraph on p. VI.B.116, which continues on p. VI.B.117, is revised to state:

- It is possible that land exchange and land assembly could occur enabling container terminal development between Piers 70 and 80 that would substitute for loss of the option adjacent to Mission Bay.

In the second complete sentence in the first partial paragraph on p. VI.B.117, the word "existing" is deleted. The reference mark for note /53/ is moved to a new location, shown below, and the last sentence is deleted. The following is added as a new paragraph:

- The revised Seaport Plan adopted in March 1989 incorporates the Port of San Francisco's requests for designation of a marine terminal site in the vicinity of Piers 70-80 and deletion of the designation of the marine terminal site at Piers 52-64 near Mission Bay, conditional on certain guarantees. See VI.A. Public Plans, Policies, and Permits, p. VI.A.19 (in this document, see pp. XV.A.1-XV.A.2), for more discussion of the changes to the San Francisco Bay Area Seaport Plan relevant to Mission Bay and for full description of the conditions attached to the amendment./53/ If those conditions are not met and the designation of Piers 52-64 as a near-term marine terminal site remained in effect, then Mission Bay development under Alternative A would reduce overall capacity for future container cargo handling in the City.

In Volume Two, p. VI.B.117, the last sentence in the paragraph after "Alternative B" is changed to state:

- The Alternative A discussion of longer-term container terminal development adjacent to Mission Bay also applies for Alternative B.

In Volume Two, p. VI.B.134, the text of note /53/ is deleted and replaced with the following:

- /53/ For more background on the revisions to the San Francisco Bay Area Seaport Plan relevant to Mission Bay planning, see the following documents, on file at the Department of City Planning, 450 McAllister Street, 4th floor: The San Francisco Bay Area Seaport Plan, prepared for the Metropolitan Transportation Commission and the San Francisco Bay Conservation and Development Commission, 1982, revised, 1988; Staff Report and Preliminary Recommendation on Proposed Revisions to the San Francisco Bay Area Seaport Plan, Report to All Commissioners and Alternates, from Alan R. Pendleton, Executive Director, January 13, 1989; Memorandum from Rick Wiederhorn, Port of San Francisco, to Marc Roddin, MTC, 1982 Seaport Plan Amendment: Site 44A, September 21, 1988; Manalytics, Inc., Marine Terminal Site Analysis: Port of San Francisco, A Report to the Port of San Francisco, San Francisco Department of City Planning, City of San Francisco Mayor's Office, Bay Conservation and Development Commission, and Metropolitan Transportation Commission, August 1988; Manalytics, Inc., San Francisco Bay Area Cargo Forecast to 2020 and the Future Demand for Marine Cargo Terminals, A Report to the Metropolitan Transportation Commission, the Bay Conservation and Development Commission, and the Seaport Planning Advisory Committee, October 5, 1988; and Manalytics, Inc., The Competitive Position of Bay Area Container Ports, A Report to the Metropolitan Transportation Commission, July 1987.

In Volume One, p. II.30, the second sentence of the boxed text headed "Marine Container Terminal Development" is revised, as follows:

- Container terminal development at Mission Bay would not be possible.

The third and fourth sentences of this boxed text are deleted and replaced with the following:

- A 1989 amendment to the Seaport Plan would allow development of a new marine terminal adjacent to existing San Francisco container terminals rather than at Mission Bay, provided certain conditions were met. If those conditions were not met, Alternatives A and B would reduce future container-handling capacity in San Francisco.

Comment

On page V.5 and elsewhere (for example, on page VI.E.68), the DEIR assumes that no major maritime or port-related development such as a container terminal would occur in the Mission Bay area by 2020. We believe that that assumption is incorrect. Manalytics, Inc., the Commission's consultant in the revision of the Seaport Plan, has forecast significant growth in containerizable cargoes by 2020. While there is a surplus of container terminal facilities at the present, the Bay Area will likely need several new container terminals by 2010. We believe that a more accurate assumption, for some of the reasons noted in the DEIR, would be that a major container terminal is unlikely to be needed at Piers 48-64 by the year 2000. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

The build-out time horizon for Mission Bay extends to 2020, by which time, according to the forecasts for the Seaport Plan, additional container terminals could be needed in San Francisco. Analyzing the impacts of a container terminal requiring land in the Mission Bay Project Area was determined to be outside the scope of the Mission Bay EIR, however, since such a terminal was not proposed for development in the foreseeable future. While the EIR does not analyze a terminal per se, it does address the question of how development in the Project Area would affect the prospects for developing a container terminal in the vicinity of Mission Bay at some time in the future. This is the appropriate perspective for the environmental analysis of development in Mission Bay. The Mission Bay EIR indicates that Alternatives A and B would preclude container terminal development adjacent to Mission Bay. Alternative N would not. The timing of potential container terminal development is a separate question to be pursued by the City if and when a formal proposal is developed.

On p. V.5 of Volume Two, Chapter V. The EIR Alternatives and Approval Process, a new note reference mark, /1a/, is added at the end of the last sentence in the partial paragraph at the top of the page:

- It is assumed that no major maritime or port-related development such as a container terminal would occur in that area during the time analyzed in the EIR./1a/

A new note, /1a/, is added after note /1/ on p. V.43:

- /1a/ Although Piers 52-64 are designated as a potential container terminal site in the Bay Area Seaport Plan (see pp. VI.A.18-VLA.20 for details on the Seaport Plan), the Mission Bay EIR analysis does not assume the construction of such a facility. The implications of such a facility would be included in a separate planning and environmental review analysis if and when a formal proposal were forwarded by the Port of San Francisco. To date, no such project has been proposed.

However, the Mission Bay EIR does analyze the impact of development in the Project Area on the prospects for more intensive port-related development and specifically, the prospects for eventual development of a container terminal facility adjacent to Mission Bay. The EIR points out the differences between the Alternatives resulting from different land use designations and subsequent development in the Project Area east of Third Street.

NOTES - Land Use, Business Activity, and Employment

- /1/ San Francisco Department of City Planning, "Economic Feasibility: Mission Bay, San Francisco," Special Study for Mission Bay, prepared by Dr. Chester C. McGuire, September 1986.
- /2/ "Economic Feasibility: Mission Bay, San Francisco," p. 5.
- /3/ Bay Conservation and Development Commission, Staff Report, January 13, 1989, p. 18. A copy of this report is on file at the Department of City Planning, 450 McAllister Street.
- /4/ Tom McGrath, U.S. National Park Service / Golden Gate National Recreation Area, telephone conversation, February 23, 1989.
- /5/ Rick Wiederhorn, Port of San Francisco, "1982 Seaport Plan Amendment: Site 44A," memo to Marc Roddin, MTC, September 21, 1988. A copy of the memo is on file at the Department of City Planning.

/6/ Manalytics, Inc., Marine Terminal Site Analysis: Port of San Francisco, A Report to the Port of San Francisco, San Francisco Department of City Planning, City of San Francisco Mayor's Office, Bay Conservation and Development Commission, and Metropolitan Transportation Commission, August 1988. A copy of the report is on file at the Department of City Planning.

/7/ BCDC Staff Report, p. 16.

/8/ BCDC Staff Report, p. 17.

/9/ Wiederhorn memorandum, pp. 1-4.

/10/BCDC Staff Report, p. 5.

STAFF-INITIATED TEXT CHANGES FOR LAND USE, BUSINESS ACTIVITY, AND EMPLOYMENT, AND FOR GROWTH INDUCEMENT

The following staff-initiated revisions are made to the Mission Bay Draft EIR's Land Use, Business Activity, and Employment subchapters in Volumes One and Two, and to the Growth Inducement subchapter in Volume One.

Volume One - Chapter II. Highlights & Conclusions (Business Activity & Jobs)

On p. II.29, the last sentence of the first complete paragraph in the left-hand column is revised to state:

- Relocation assistance could be required to enable continued operation of those maritime-related activities in the City.

In the second paragraph under "Maritime Activity," in the right-hand column on p. II.29, the first two sentences are revised to state:

- The housing, open space, and commercial development proposed in Alternatives A and B would make it difficult to intensify maritime activities on adjacent piers. Moreover, with a mixed-use or residential community in Mission Bay, the piers would become increasingly valuable for commercial and recreational development over the long term.

Volume Two - VI.B. Land Use, Business Activity, and Employment

The second sentence in the first paragraph following "Overview of Port Facilities and Waterfront Activity" on p. VI.B.36 is revised to state:

- Over time, much of the northern waterfront (from the Ferry Building north) has been converted to non-maritime uses such as retail, restaurant and office, although maritime activities continue on Piers 9-35 and the commercial fishing industry maintains an active presence at Fisherman's Wharf.

Mitigation Measure B.2 on p. VI.B.124 is revised to state:

- Alternatives A,B - Alternatives A or B would preclude future development of a container terminal adjacent to Mission Bay. To preserve future options for container terminal development in San Francisco, establish some means of achieving acceptable future container cargo handling capacity, such as a land exchange enabling substitution of a site in the vicinity of Piers 70 and 80 for the site adjacent to Mission Bay. To better ensure adequate amounts of long-term backland area are permanently available to support container terminal operations, rezone the replacement site and surrounding land for maritime use.

Note /31/, on p. VI.B.131, is revised to include a reference to 1986-1987. "Annual Planning Information" is underlined in the EIR; the underline beneath this title in the following change therefore does not indicate a revision.

- /31/ California Employment Development Department, Annual Planning Information 1986-1987, May 1986 (for each county).

Note /33/, also on p. VI.B.131, is corrected to show the proper volume number. Monthly Labor Review is underlined in the EIR; the underline beneath this title in the following change therefore does not indicate a revision.

- /33/ U.S. Department of Labor, Bureau of Labor Statistics, Monthly Labor Review, "The Employment Situation During 1986: Job Gains Continue, Unemployment Dips," February 1987, Vol. 110, No. 2, pp. 4-10.

Volume One - Chapter II. Highlights and Conclusions (Growth Inducement)

On p. II.103, the following sentence is added to the paragraph under "Spillover Effects":

- Mission Bay development would also affect the level of maritime activity on adjacent piers.



C. HOUSING AND POPULATION

CHARACTERISTICS OF PROJECT AREA HOUSING AND HOUSEHOLDS

Comment

The issue of family housing was not specifically addressed and its related issue of liveability. The issue of ownership was never addressed. Is it assumed that all housing will be rental? The needs of a community of renters, with its normal preponderance of singles, is different than a community where there is home ownership. There is no mention made of single family dwellings, or of family sized condominiums. It does mention community services and the fact that additional schools will be needed but it makes no attempt to integrate this with the types of housing and other amenities needed to sustain a population of children. It does state that the average unit size will be 850 square feet, a size obviously unsuitable for families. We believe that Mission Bay should not be subject to this kind of size limitation or to rental housing. We feel strongly that you cannot build a community with rental housing. (Gloria Van Winkle, Potrero Boosters and Merchants Association)

Response

The Mission Bay EIR describes a range of housing sizes and types. Pages V.5-V.6 of Volume Two, Chapter V. The EIR Alternatives and Approval Process, present the characteristics of the housing that would be developed in Alternatives A and B. All the housing would be multi-family; the complexes would range from two-story townhouses to eight-story mid-rise structures. A variety of different housing sizes would be provided. While the average unit size would be 850 gross square feet (gsf), the largest units would be 1,500 gsf, and the smallest would be 500 gsf. The units are not limited to 850 gsf in size as implied by the commenter. Larger units would have two, three, or four bedrooms and would be suitable for family housing.

The range of unit sizes and types was factored into the population estimates (see Volume Three, Appendix A, pp. XIV.A.13-XIV.A.15). The tables in that appendix show that the household sizes that go along with the unit sizes and number of bedrooms ranged from 1.4 to 2.8 persons per household. The larger units are assumed to include some families with children, and the appendix shows the assumptions used to estimate

the number of children living in Mission Bay. The estimates of Project Area population by age were done primarily for the community services analysis. There is a link between the type and size of housing built in Mission Bay and the community services impact analysis.

Finally, it is not assumed that all of the housing would be rental housing. There would be both owner-occupied and rental housing spanning a range of prices and rents. When building a community on the scale of Mission Bay, it makes sense from both a planning perspective and a marketing perspective to offer a range of housing options.

Pages V.38-V.40 of Chapter V. The EIR Alternatives and Approval Process, present the estimates of Mission Bay households and population associated with each Alternative. Pages VI.C.64-VI.C.67 of Volume Two describe the characteristics of the households and population likely to live in Mission Bay, given the range of housing types in each Alternative.

Comments

The South East section of San Francisco has the best climate in the City, therefore the area should be considered for housing. This would be a start in correcting past mistakes of putting quality housing in the foggy, cold areas and offices and industry in the fine weather areas.

In reading the Mission Bay Alternatives, "A" or "B" cannot be supported completely. Alternative "N" should not even be considered. Housing planned for Mission Bay is much too dense. It should be more compatible with its adjacent neighbor Potrero Hill, where the density is about 27 units per acre. . . .

The housing should provide a variety of sizes and types. There is a great need for single family housing with yards where families can be raised. This need was evidenced in the Mayor's recent search for adequate housing on Potrero Hill. The real estate agents located about 7 places that might have been suitable for the Mayor's style of life. But the owners were unwilling to part with their treasures. This shows the crying need for large fine housing in the South East portion of the City.

Senior citizens in San Francisco do not have a first class housing complex with all the services and luxuries. Mission Bay would be ideal for such housing because of the level terrain and fine weather.

Regarding affordable housing -- As renters or purchasers move into new housing in Mission Bay, their former housing will be freed up for tenants at affordable prices. To purposely construct cheap housing is a mistake.

For the more ambitious who would live in Mission Bay and are willing to put forth the effort, there is a "Sweat Equity" program where the purchasers must put in so many work hours. [They] [r]eceive instruction and help towards building much of their own house. With neighbor helping neighbor, a cooperative community is formed before they move in. This program has proven successful in Oakland. It should be tried in San Francisco. (Babette Drefke, Potrero Boosters & Merchants Association)

The housing density should be considered very carefully. The densities described in Alternatives A and B are very high, and may be too high to provide a livability up to the expectations of San Franciscans. (Robert Marthinsen, Mission Creek Harbor Association, Inc.)

Response

Mission Bay Alternatives A and B analyzed in the EIR are founded on the range of land use activities considered for the Mission Bay site in the planning process. With housing as a stated priority for Mission Bay, the number, type, size, and density of housing units in the Alternatives reflect those levels contemplated in the various studies prepared to date for the plan.

Alternatives A and B are consistent with one commenter's desire to see more housing built in the southeast section of the City. Also, as indicated on p. VI.C.64 of Volume Two, there would be housing suitable for both the elderly and the disabled. Some of the smaller units in larger complexes well-served by elevators would make sense for elderly tenants. The convenient retail shopping and transit services provided at Mission Bay would make it an attractive housing option for senior citizens.

The Mission Bay housing in Alternatives A and B would be provided in a variety of sizes and types (see the earlier Response on p. XV.C.1). While all the housing would be constructed in multi-family complexes, the range of types would include two- and three-bedroom townhouses suitable for families. Private open space would be part of the residential complexes, in addition to public open space and recreation areas elsewhere in the Project Area.

Single-family housing with yards is not the type of housing that best serves San Francisco's needs. The planning for Mission Bay residential development is exemplified in the range of multi-family housing densities incorporated in Alternatives A and B. As part of the work for The Mission Bay Plan, Proposal for Citizen Review, housing densities for several San Francisco neighborhoods (i.e., Potrero Hill, the Marina, Russian Hill, North Beach/Telegraph Hill, and Nob Hill) were analyzed (see The Mission Bay Plan, Proposal for Citizen Review, pp. A-3-A-8). The text describing the Mission Bay housing program mix identifies the considerations behind the proposed housing component of the plan:/1/

The housing program mix is determined by several factors. The first is the desire to provide the maximum number of units while at the same time assuring diversity and a pleasant, livable environment. . . About 7,700 housing units can be provided on 79 acres, and 7,960 units in 82 acres. This is high for a San Francisco neighborhood. . . and limits opportunity for lower density housing prototypes (such as townhouses). . . Densities could be lowered but this would reduce the unit count. Alternatively, densities could be increased on some lots by building residential buildings over eight stories. . . but that would deviate from the eight-story height limitation on the site.

The text quoted from the Proposal for Citizen Review highlights the trade-offs involved in planning for Mission Bay. The ultimate determination of acceptable housing densities for Mission Bay will be made by decision-makers following the public hearing process for the Plan. During that process, the Planning Commission and Board of Supervisors will have to weigh the numerous planning, economic, social, and environmental concerns related to the project.

Housing constructed at Mission Bay would not be "cheap housing." Some of the housing would be offered at affordable prices and rents through various subsidy mechanisms available to the project sponsor and the City. Other housing would be offered across a range of market-rate prices and rents.

A "sweat equity" program where purchasers participate in building part of their units is a possibility for Mission Bay. The Alternatives analyzed in the EIR do not specifically include such a program for housing in the Project Area, although one could be implemented if approved for Mission Bay.

JOBS/HOUSING ISSUES

Comments

... [I]f you review the EIR and you compare that to more accurate projections of housing needs such as those recently released by ABAG, you will find that your projections in your EIR of housing needs to the Year 2020 and the projections of housing production to the Year 2020 in the EIR are absolutely fantastic. In fact, again, just taking the difference, not even accepting ABAG's figures, which our group happens to believe are the accurate figures for housing need versus production, you're looking at a deficit of around 15 to 20,000 units under the most optimistic situation by the Year 2020, and you're looking at a deficit of nearly 25,000 affordable units by the Year 2020.

What we urge you to do is treat the problem in two different ways, the first being to reduce demand. And you reduce demand by cutting back on office development. We are not "no growth." We believe there has to be balanced development and a balance[d] community in Mission Bay. But from a housing perspective alone, and [we] are talking about a crisis that hopefully all of us are around not to see by 2020 or the Year 2000 even, you cut demand. You need to cut that workforce demand. But you need to balance it with light industrial, blue collar service, and other blue collar types of industries, those proven viable in the City, like the printing trades that are being moved out of town by a lack of affordable space and which will employ resident San Franciscans, thus not adding to demand, and putting payroll in some folks' pockets so they can get out of the subsidized housing they're in now, freeing that up for the others, including the homeless, who don't have a chance at this time.

No. 2, you've got to treat the production side. In Mission Bay we are not arguing for 10,000 units as you see in Alternative B. Possibly 8,000 units. This is what we understand is being discussed in the negotiations, although, again, it's not reflected in the EIR. But we are saying 50 percent of those should be affordable, and affordable not to 52-grand-a-year Yuppies, but affordable to the people who really have a need in this City. In other words, use the HUD income limits, \$32,000 and below for a family of four. That must be targeted. That should be 50 percent of all housing built. And affordability should go as deep as possible. (Rene Cazenave, San Francisco Council of Community Housing Organizations)

SFRG rejects the EIR's conclusion that sufficient underutilized land will exist within the City to accommodate 10,000 employees that would be located at Mission Bay under Alternative A. It is more credible that growth will occur elsewhere in the region. And given the growth projection for San Francisco, such should cause us no concern.

Thus, SFRG [dis]agrees that Alternative A will provide a housing surplus. At best, it will be housing neutral and will continue the trend of exporting San Francisco's unmet housing demand to other housing-scarce Bay Area communities.

By comparison, Alternative B provides a very substantial net housing surplus for San Francisco and for the region, a surplus that can absorb at least a portion of the demand generated by the tremendous job growth projected in the City's employment force.

We do not quarrel that the developer is entitled to a profit. But permitting the significant commercial development incorporated with Alternative A should not be a City priority, given projected City and regional employment growth. Improving the balance between housing supply and demand must be the City's policy, particularly for an administration ostensibly concerned with out-of-control increases in housing costs. (Alan Raznick, San Franciscans for Reasonable Growth)

Even if we disregard the disparity between producing two-thirds low-paying employment and two-thirds market rate housing, Mission Bay does not compute. 23,000 employees do not fit into 7,500 housing units. Even working couples would have to take on an employed roommate for the project to compute. And I do not think it would be any great news to the commission that there is no pool of inexpensive housing in San Francisco or within easy commute of San Francisco waiting to be filled by a surplus of low-paid workers. And don't count on these jobs being filled by San Franciscans, unemployed San Franciscans. Where in San Francisco is there a pool of unemployed but well trained and well housed people looking for lower-paying jobs in back office situations? (Ira Kurlander, San Francisco Tomorrow)

My own reaction to the EIR and some of the alternatives is that they totally underestimate the housing needs. I am not saying that they overestimate the economic growth, the type of economic growth. I don't have enough

information to judge that. And yet if we talk about trying [to] provide for both, we are going to impinge upon a lot of the other things that people have been discussing here in terms of the need for open [space], wetlands, cultural facilities in the area. There is only a certain amount of development that that area will take unless we want to talk about that neighborhood as a different kind of neighborhood than any other kind of neighborhood in San Francisco.

The way we are talking about it now, it is going to be different, but I am talking about if we want to develop that area, not with 100-foot height limits, but 200-foot height limits, and talk about density of housing at two or three hundred units per acre rather than 80, 100, 150.

And, again, that is an issue that I think is implied in these discussions, and it's one I know this Commission is going to want to get involved with. (Commissioner Engmann)

. . . [W]hat is the true impact of the distribution between housing and jobs? To what extent have we really aggravated the problem of the housing crisis in the City by the way the project Alternatives are described? And to what extent have we some deficiencies in the analysis and some of the multipliers that are applied -- which are ignored here but are addressed elsewhere in other projects? But when they're applied here, we say that the housing crisis is far more serious than the impacts, than what is proposed here as the description of those impacts in this EIR. (John Bardis)

Response

This Response addresses a variety of questions raised by commenters about the Project Area jobs/housing analysis. First, the EIR approach is described and contrasted with approaches more appropriate for other planning purposes. Second, key assumptions incorporated in the EIR jobs/housing calculations are explained. Third, a regional perspective for the jobs/housing analysis is discussed.

EIR Approach for Jobs/Housing Analysis

The Purpose of the EIR Analysis Determines the Approach. The focus of the jobs/housing analysis in the EIR is, for each Alternative, to evaluate the housing supply in Mission Bay compared to housing demand in San Francisco associated with Project Area employment growth. That analysis indicates the extent to which Mission Bay would

provide additional housing, over and above that accommodating Project Area employment growth, to relieve housing market pressures in the City. The analysis provides the basis for conclusions about how the Alternatives would affect housing market conditions in San Francisco.

The EIR approach identifies expected future conditions, how the mix of land uses in each Alternative would affect the City's housing market, and the different outcomes attributable to each Alternative. The estimate of additional housing associated with Project Area job growth is based on an assessment of trends and key factors largely independent of Mission Bay that influence where people live and work and how they group into households -- including demographics, lifestyle choices, housing preferences, neighborhood characteristics, housing choices and prices/rents, commute travel options, occupations, incomes, etc. The jobs/housing analysis for Mission Bay relies on a realistic future scenario for the City and the region, incorporating Mission Bay and other cumulative growth and change. This is the future context for housing and population and the relationship between employment and employed population (on both citywide and regional bases) developed for the EIR to describe likely future conditions (as presented in Volume Two, pp. VI.C.36-VI.C.63).

Using a reasonable scenario of what is expected to occur under each Alternative, the EIR approach is technical, incorporating adopted policy and current and future trends. Then, it is the role of decision-makers and the public to evaluate the results. The consequence of such evaluation could be the choice of one Alternative over another, or the decision to seek a more desirable outcome from one or all of the Alternatives through changes in public policy. It is important to understand the distinction between the technical analysis in the EIR and the subsequent evaluation of the outcomes and effects identified by the analysis with respect to policy objectives for a plan for Mission Bay.

The Purposes of an EIR Analysis and a Citywide Housing Needs Analysis Are Different. The EIR scenarios of what is expected to occur under each Alternative are independent of a housing needs analysis. A housing needs analysis requires the identification of goals against which expected future conditions can be evaluated. The setting of goals or standards is a matter of public policy and is beyond the scope of impact assessment in the EIR. However, the EIR scenarios may be evaluated in terms of a housing needs analysis.

As mentioned by one commenter, the Association of Bay Area Governments (ABAG) has done a housing needs determination. That report proposes certain goals, such as the goal for improving the balance of jobs and housing. For ABAG, the housing need associated with job growth is the number of housing units to house up to 50% of the additional workers who otherwise would commute from the jurisdiction where they live to the jurisdiction where they work (according to a scenario of what is likely to occur given current and future trends and development policies). The ABAG publication (Housing Needs Determination, January 1989, p. 69) states that this 50% target figure is an arbitrary number set as a goal for jurisdictions where job growth is forecast to exceed the growth of employed residents. Other goals could be chosen. Once articulated, goals of this type are then applied to forecasts of expected population and employment growth (such as described by the future scenarios in the Mission Bay EIR or by the ABAG forecasts in Projections '87) for purposes of determining the amount of housing production required to achieve a particular goal. Housing production calculated in this way is in addition to the production anticipated by the forecasts of expected future housing and population growth under current policies.

Since the publication of the Draft EIR, the Department of City Planning has prepared a citywide housing needs analysis (see "San Francisco Housing Needs to 1995, A Draft for Citizen Review," May 1989). The analysis incorporates portions of the ABAG housing needs determination including that described above.

The Department's Needs Analysis, as well as that prepared by ABAG, utilizes trend-based forecasts of expected future conditions as does the EIR analysis. However, unlike the EIR analysis, the needs analyses apply certain proposed goals or standards to identify targets for additional housing production. As policy-setting documents, the needs analyses appropriately explore new goals. The EIR, however, is not a policy document. The EIR's purpose is to provide a reasonable future scenario that enables analysis of its associated impacts. While EIR impact information may be used to argue for changes in policy, its publication is not for purposes of considering or establishing new policy. The commenters who indicate that the EIR underestimates housing needs or that the housing needs identified by ABAG are more accurate have not understood the differences in purpose and approach between an EIR analysis and a housing needs assessment.

Use of EIR Analysis for Planning. The EIR analysis of the relationship between Project Area jobs and housing can be useful in formulating

policy and developing and refining a plan for Mission Bay. For example, to assess variations on the Alternatives (see Volume Two, Chapter VII. Variations on Alternatives), the EIR analysis tested different combinations of jobs and housing in Mission Bay besides those represented by the Alternatives. (See Variant 1 [Housing Development], Variant 2 [Port-Priority Retention], and Variant 3 [Replacement of Some S/LI/RD with Office] on pp. VII.1-VII.24, Variant 5 [Reduced Housing Density] on pp. VII.32-VII.37, and Variant 7 [Office as a Primary Use in S/LI/RD Development] on pp. VII.41-VII.47, all in Volume Two; and Variant 11 [EIR Hearing Proposal] and Variant 12 [Development Agreement Application] in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and pp. XV.P.27-XV.P.46, respectively, of this volume.) There also are variants discussing the implications of different assumptions about the affordable housing component for Mission Bay. (See Variant 8 [Variations in the Percentage of Affordable Housing and the Size of Affordable Units] on pp. VII.47-VII.51 of Volume Two, and Variant 11 [EIR Hearing Proposal] and Variant 12 [Development Agreement Application] in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and pp. XV.P.27-XV.P.46, respectively, of this volume.) Analysis of the Alternatives themselves can be the basis for generalizations as to the effects of different land use mixes.

The analytical framework for the EIR analysis also can be used to test various policies and/or objectives for achieving a different (and presumably more desirable) future outcome than what otherwise would be expected to occur. For example, the values of the variables in the calculations could be changed to reflect certain goals or standards. A commenter takes this approach. (See the Response on pp. XV.C.16-XV.C.19.)

While the EIR framework can be useful for the purpose of determining the type and extent of local policy goals or standards that should be sought, the policy-neutral approach presented in the EIR itself is the most relevant for evaluating the most likely effects of a particular land use program for Mission Bay (i.e., the Alternatives or other choices). The resultant comparison of Alternatives is the primary purpose of the Mission Bay EIR.

How Project Area Employment Growth Is Converted to Demand for Additional Housing in San Francisco

Justification for Approach. Commenters argue that the EIR jobs/housing analysis does not compute. They suggest that since 23,000 workers

(actually 25,000 workers under Alternative A) do not fit into 7,500 housing units (actually 7,700 housing units under Alternative A), the EIR has failed to account for total housing demand associated with Project Area employment growth and, consequently, housing market impacts are underestimated.

This section of the Response explains at a conceptual level the rationale for the calculations used in the EIR to estimate the number of San Francisco households and housing units associated with Mission Bay employment. Background on technical aspects of the analysis is provided in Volume Two, VI.C. Housing and Population, and in Volume Three, Appendix C.

To answer questions related to impacts on the housing market in San Francisco and in the rest of the region, demands a scenario of where people are likely to live and work, recognizing that Mission Bay would be one part of a larger regional economic unit. In other words, the EIR has a built-in future context that reflects regional development patterns and commute patterns and the choices that Bay Area households make to accommodate to the demands of living and working in this region. Another justification for the calculations is the need to provide a reasonable, defensible, and policy-neutral background against which to evaluate the contributions of the Mission Bay Alternatives.

There are two key assumptions in the computation of San Francisco households associated with Project Area employment growth. First, not all additional people working in Mission Bay would live in San Francisco; consequently not all additional Project Area employment would be associated with demand for San Francisco housing. Second, not all additional workers would represent households competing for additional housing units: on average, households have more than one worker; and, in addition, housing for some workers would be accounted for by an increase over time in the average number of workers living in existing housing units. This means that the number of San Francisco housing units to accommodate Project Area workers would be less than the number of additional Project Area workers expected to live in San Francisco.

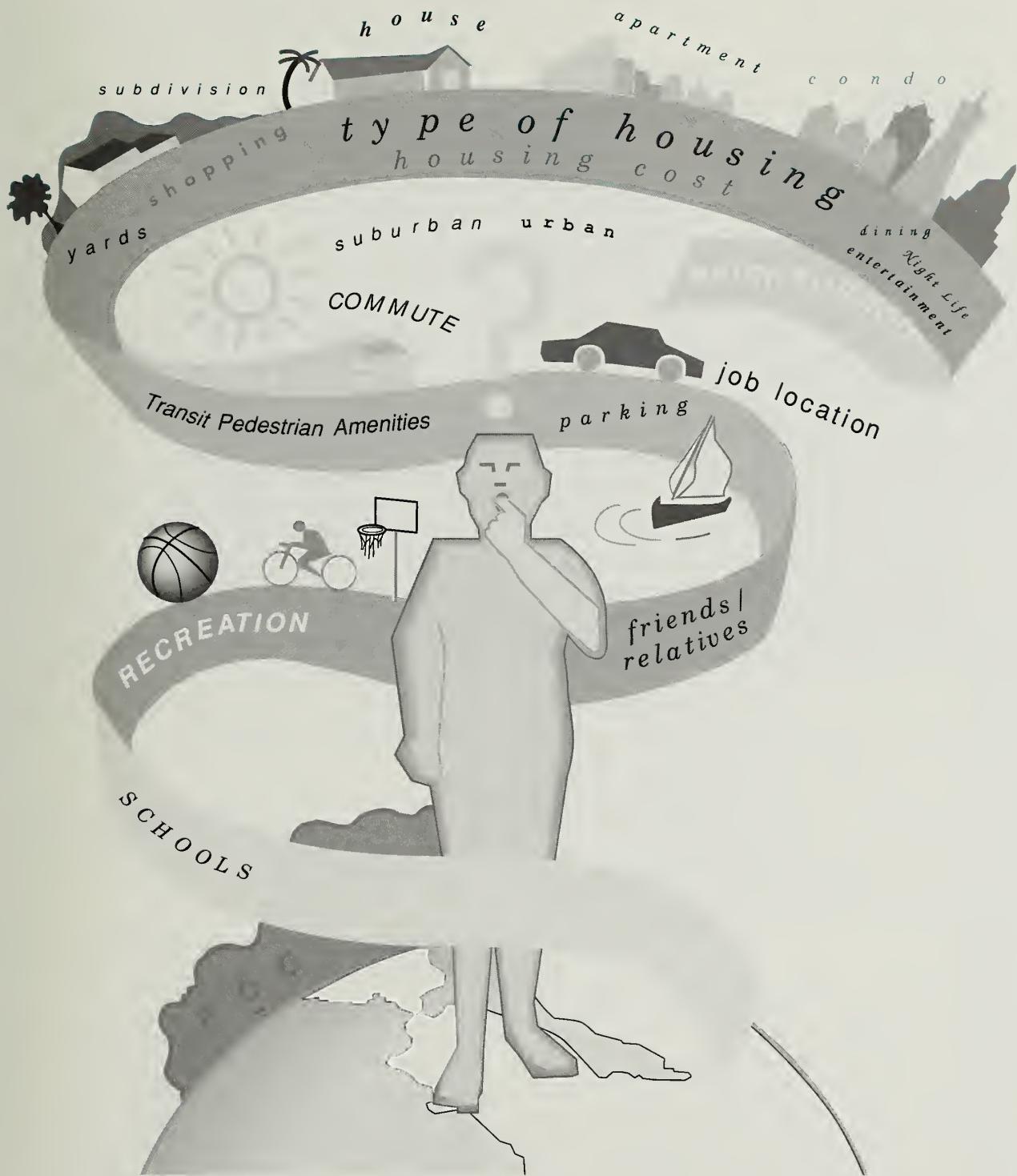
The computations in the EIR analysis account for the following reality: where employment and population growth are likely to occur and how workers and others are likely to group into households are influenced by myriad factors, not simply by the mix of jobs and housing planned for the Mission Bay Project Area or even for San Francisco overall. The resultant scenario reflects

the decisions people make in choosing where to live, how to commute to work, whether or not to work, as well as other determinants such as land use patterns and demographic trends. These determinants of where people live and how they group into households are largely independent of Mission Bay development.

Review of Assumptions. The first assumption built into the EIR jobs/housing analysis is that not all workers would live in San Francisco. Pages VI.C.51-VI.C.55 and VI.C.67-VI.C.69 of Volume Two introduce the purpose of the jobs/housing analysis and indicate how this assumption figures into the computation of housing demand associated with Project Area employment growth. Pages VI.C.92-VI.C.97 of Volume Two describe the regional housing market implications of Mission Bay and cumulative employment growth, noting that such implications would occur because "not all San Francisco workers could be expected to or would choose to live in the City." Technical background on this assumption is provided on pp. XIV.C.20-XIV.C.32 of Volume Three, Appendix C.

A few examples illustrate the reasonableness of this assumption and why it does not represent the "export of unmet housing demand." Figure XV.C.1 presents a graphic representation of the factors that influence decisions on place of residence.

Not all people who work in San Francisco would choose to live in San Francisco. Many prefer the types of housing and the characteristics of neighborhoods in other parts of the region. Many prefer relatively larger houses and yards and the suburban character of other communities. Some might prefer to live in San Francisco but, because of the relatively higher housing costs in the City, they cannot find a house and yard of the size they need there for a price they can afford and thus they end up living on the Peninsula or in the East Bay; other households who could afford San Francisco housing choose instead to live outside the City. Some people prefer a less dense and congested environment than that found in San Francisco, which is both a center city and a tourist attraction. Some prefer a more purely residential setting to raise a family. Some prefer the weather or the school systems in other communities. Some people live with another worker who does not work in San Francisco; housing somewhere in-between equalizes the commute for both. Many people move to the Bay Area because of the region's physical appeal, quality of life, or educational institutions. While choosing to live outside San Francisco, they might look to the concentration of economic



Because of preferences in lifestyle, climate or neighborhood and due to economic, transportation and other factors, San Francisco workers choose to live in the City and elsewhere in the region. It follows that not all Mission Bay workers would choose to live in the City, and thus not all Mission Bay employment growth would be associated with a demand for City housing.

Mission Bay

SOURCE: Recht Haustrath & Associates and Environmental Science Associates, Inc.

FIGURE XV.C.1
MANY FACTORS INFLUENCE
WHERE PEOPLE LIVE AND WORK

activity in the region's center city for job opportunities.

The second assumption is that not all additional workers living in San Francisco would represent households competing for additional housing. Pages XIV.C.32-XIV.C.34 of Volume Three, Appendix C, provide background on this assumption, including discussion of the demographic, socio-economic, lifestyle, housing market, and other factors influencing how workers group into households in light of current conditions and future trends. On average, households have more than one worker, so each worker does not result in demand for one housing unit. In the future, the average number of workers living in any one household (expressed as workers-per-household) is expected to increase, although at a slower rate than in the past. Some of the reasons are peculiar to San Francisco, others are more generally applicable.

The baby-boom generation's behavior largely determines demographic patterns such as that measured by workers-per-household. In a continuation of recent trends, the baby boom will be in their prime working years, more households will have persons of this generation, and there will be more workers-per-household on average for some time into the future. Women will continue to join the workforce although the rate of increase in women's labor force participation is expected to slow over time. More household members will work to cover housing and other expenses. More of the households attracted to San Francisco (young people, couples without children, immigrants) tend to have more workers than average. Figure XV.C.2, on p. XV.C.9 of this volume, identifies the factors affecting the average number of workers-per-household in San Francisco.

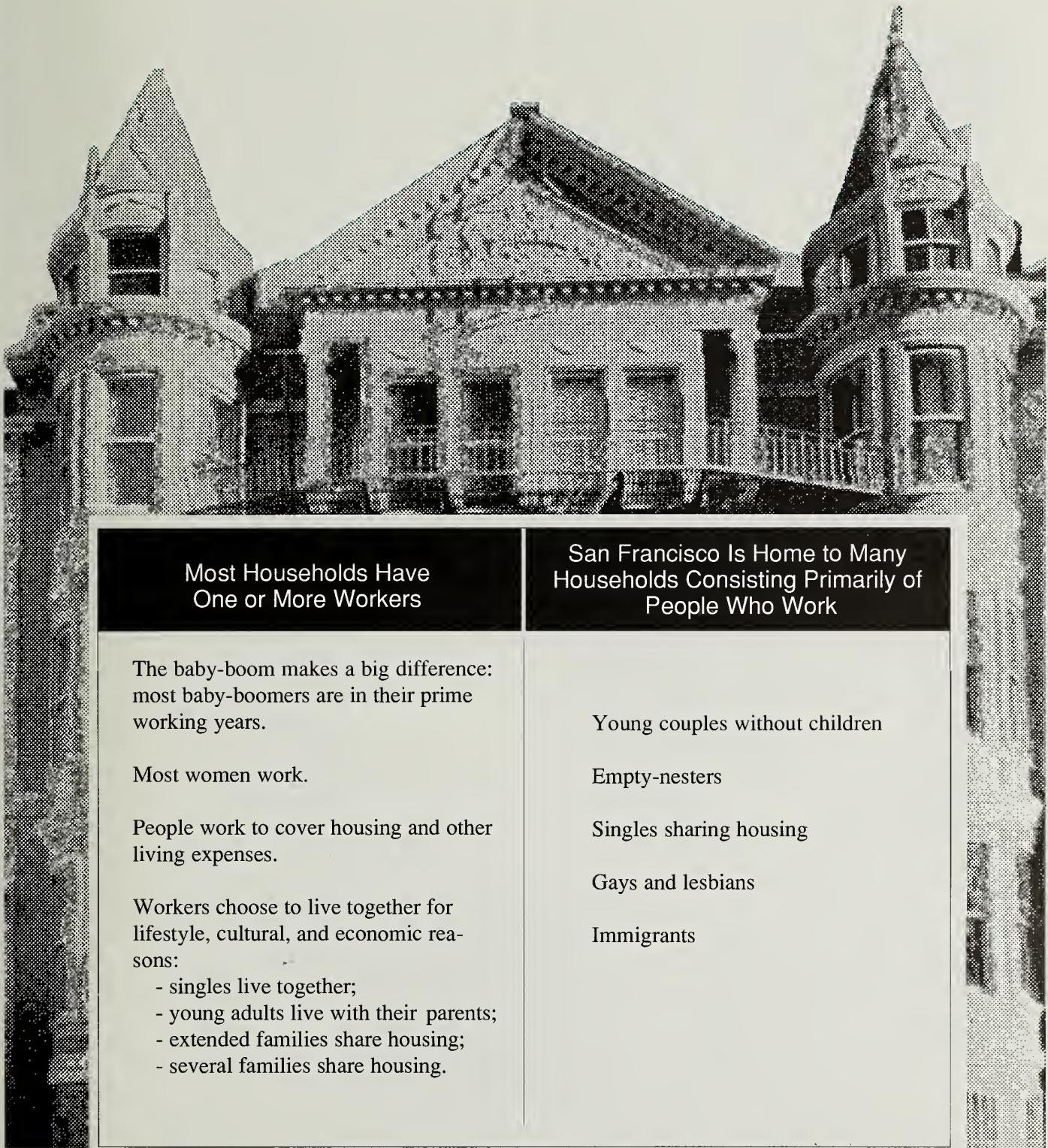
Consequently, as the population of the City changes over time in any case, there are likely to be more workers living in San Francisco, regardless of the amount of new housing built. Existing residents will take jobs as job opportunities become available and as their choices or needs dictate. The people living in existing housing units also will change over the course of the 35-year period covered by the Mission Bay EIR analysis, and the characteristics of the new households will be different from the characteristics of those they replace. (While some of this latter type of neighborhood change represents gentrification brought about by the lack of affordable new housing, some of it also reflects an ongoing process of urban development and change that is to some extent inevitable as the population and the economy of the City evolve over time.)

Figure XV.C.3, on p. XV.C.10 of this volume, summarizes with numbers the Response to the Comment that the Mission Bay jobs/housing calculations do not compute. Using Alternative A for illustrative purposes, the diagram shows how the calculations move from a relatively large amount of employment growth to a comparatively small amount of additional housing in the City. As summarized below, there are four steps in the calculations. (See Volume Three, Appendix C, pp. XIV.C.29-XIV.C.37 for more background on the calculations.)

- Step 1: The employment growth accommodated in Mission Bay is associated with an increase in workers living in San Francisco and an increase in workers living in the rest of the region.
- Step 2: Some of the increase in workers living in San Francisco is assigned to existing housing since, in the future, existing housing is expected to accommodate more workers on average than in the past. The rest of the increase would represent workers accommodated by additional housing in San Francisco.
- Step 3: The number of additional workers to be accommodated by housing growth is converted to an estimate of additional households using a factor for workers-per-household.
- Step 4: The additional households are converted to additional housing units in San Francisco according to an average housing vacancy factor.

Consideration of Jobs and Housing from a Regional Perspective

Some of the concern about analysis of the Project Area jobs/housing relationship may relate to the focus on San Francisco. The focus of the jobs/housing calculations in the EIR is San Francisco (although the calculations account for a cumulative future regional scenario as well) so that the Project Area jobs/housing analysis can evaluate the housing supply in Mission Bay relative to housing demand in San Francisco associated with Project Area employment growth. That analysis provides the basis for conclusions about how the Alternatives would affect housing market conditions in San Francisco. San Francisco is the area for which decision-makers evaluating Mission Bay are responsible. It is where alternative plans for Mission Bay make the most difference.



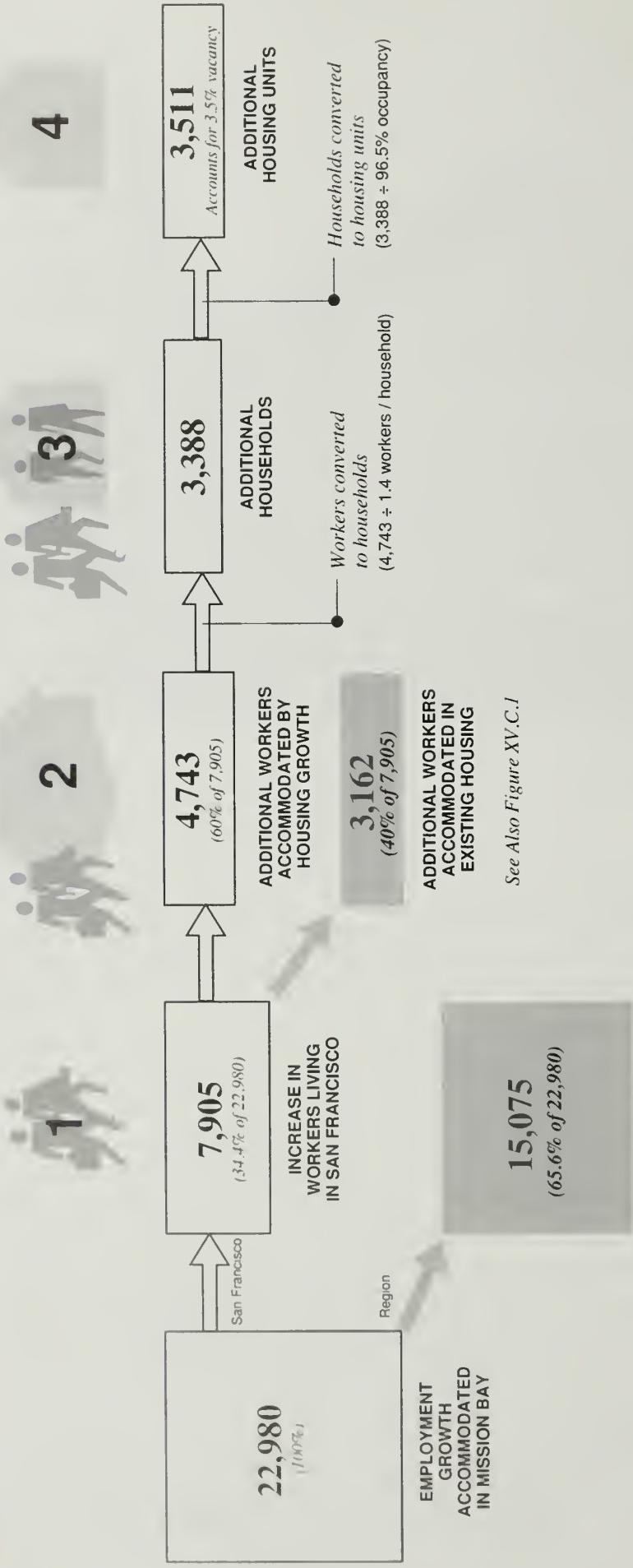
San Francisco households average more than one worker. The average number of workers per household has been increasing over time. This trend means that existing and new housing will accommodate more workers than in the past.

Mission Bay

SOURCE: Recht Haustrath & Associates and Environmental Science Associates, Inc.

FIGURE XV.C.2
FACTORS AFFECTING THE AVERAGE NUMBER OF WORKERS PER HOUSEHOLD IN SAN FRANCISCO

Mission Bay



The estimate of additional housing associated with Mission Bay job growth is based on an assessment of demographic, lifestyle, economic, housing market, and transportation factors and trends largely independent of Mission Bay that influence where people live and work and how they group into households. A future scenario for the City and the region, incorporating Mission Bay and other cumulative growth and change, was developed to describe likely future conditions. The steps above employ parameters from that cumulative analysis to identify the future contribution of Mission Bay from a jobs/housing perspective.

The numbers shown are for EIR Alternative A.

FIGURE XV.C.3
FOUR STEPS TO CALCULATE ADDITIONAL HOUSING IN SAN FRANCISCO ASSOCIATED WITH MISSION BAY EMPLOYMENT GROWTH

SOURCE: Recht Harsath & Associates and Environmental Science Associates, Inc.

It is important to note, however, that the regional scenario is not ignored. The housing market and transportation impact analyses in the EIR account for the Mission Bay workers that would be living in households throughout the region. In Volume Two, Table VI.C.15 on p. VI.C.58, Table VI.C.16 on p. VI.C.61, and Table VI.C.22 on p. VI.C.95 present the estimates of where workers in the Downtown & Vicinity including Mission Bay would live on a regional basis. What is not presented in the Draft EIR is, in the context of the jobs/housing analysis, a specific estimate of the number of additional housing units throughout the region associated with Project Area employment growth. This information is now provided in Table XV.C.1, on pp. XV.C.12-XV.C.13, along with background on the calculations.

Total additional housing associated with Project Area employment growth (including housing in San Francisco and housing in the rest of the region) is estimated at about 11,070 units for Alternative A, 2,020 units for Alternative B, and 6,990 units for Alternative N. These estimates are part of the long-term cumulative regional scenario of population, housing, and employment. For all Alternatives, the amount of additional housing associated with employment growth in Mission Bay would represent a relatively small share of the total additional housing expected to be provided throughout the region in the future.

In the EIR (see Volume Two, pp. VI.C.67-VI.C.77) and earlier in this Response (see pp. XV.C.5-XV.C.8), only the additional housing in San Francisco associated with Mission Bay job growth is identified (about 3,500 units under Alternative A, for example). The additional housing in San Francisco is compared with the amount of housing to be built in Mission Bay (7,700 units in Alternative A) to evaluate whether an Alternative would result in a housing shortfall or surplus in San Francisco (in the case of Alternative A, a surplus of about 4,200 units).

The region-wide estimates presented above include both the housing to accommodate the additional workers living in San Francisco and the housing to accommodate the additional workers living in the rest of the region. That total amount of housing (about 11,000 units under Alternative A) was not compared to only the amount of housing to be built in Mission Bay (7,700 units in Alternative A) for purposes of evaluating the adequacy of the jobs/housing balance for San Francisco, since it is a premise of the EIR analysis that not all of the additional Project Area workforce would be accommodated in San Francisco. It is important to understand

that this does not mean that some of the workers would be without housing. Housing is expected to be provided in communities throughout the region in the future as it has in the past, according to existing land use policies and the roles and functions that have developed for the various communities that make up this region. (See Volume Two, pp. VI.C.36-VI.C.38, pp. VI.C.44-VI.C.46, pp. VI.C.49-VI.C.51, and pp. VI.C.51-VI.C.63, and Volume Three, pp. XIV.C.12-XIV.C.29.)

An earlier part of this Response (see pp. XV.C.6-XV.C.7) reviews the factors influencing decisions on place of residence that explain why not all those who work in San Francisco choose to live in the City. The rest of this subsection explains why it is not expected that jobs and housing will match in San Francisco.

To evaluate Mission Bay in terms of the amount of housing added in the Project Area relative to the total additional housing throughout the region associated with Project Area employment growth implies that employment growth in San Francisco could or should be accompanied by a corresponding amount of additional housing in San Francisco. While the addition of housing certainly is a desirable goal, the standard of "matching" jobs and housing in San Francisco does not recognize the City's role as a center city within a large metropolitan region.

Within large metropolitan regions like the Bay Area, there are areas that are centers of employment, areas that are primarily residential, and other areas that provide more of a mix of both functions. The distribution of functions depends on the overall land use pattern of the region -- is it focused around a major center city with high densities at the center and low densities at the periphery, or are there several relatively lower density centers of activity distributed around the region with a less concentric and more dispersed overall land use pattern? Since the development pattern in the San Francisco Bay Area is more similar to the former model (the large Los Angeles metropolitan region is more similar to the latter pattern), there tends to be more specialization of functions among communities. The high density center plays a stronger role in employing the region's residents than in housing them. Other areas depend on the center city to employ some of their residents and the center city depends on other areas for housing. Although Bay Area employment is more dispersed throughout the region than was once the case, this basic land use pattern still exists. The Bay Area is similar to many other regions throughout the country, particularly those with older center cities.

XV. Summary of Comments and Responses
C. Housing and Population

TABLE XV.C.1: BACKGROUND FOR ESTIMATING TOTAL ADDITIONAL HOUSING THROUGHOUT THE REGION ASSOCIATED WITH PROJECT AREA EMPLOYMENT GROWTH

	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative N</u>
Additional Employment Accommodated By Project Area Development, 1986-Buildout/2020	22,980	4,230	15,250
<hr/>			
	<u>San Francisco</u> <u>of Region</u>	<u>Rest of Region</u>	<u>San Francisco</u> <u>of Region</u>
			<u>San Francisco</u> <u>of Region</u>
Steps in the Calculations:			
1. Percent representing additional workers residing in San Francisco or in Rest of Region/a/	34.4%	65.6%	36.7%
2. Percent of above representing additional households/b/	60%	85%	62%
3. Average number of workers in households with workers employed in the Downtown & Vicinity/c/	1.51	1.70	1.51
Results of Steps 1, 2 and 3:			
Additional Households Associated with Employment Growth	3,141	7,537	638
4. Average housing vacancy comparable to vacancy assumed for Mission Bay	3.5%	3.5%	3.5%
Additional Housing Units to Accommodate Additional Households with Project Area Workers/d/	3,255	7,811	661
Total Throughout the Region	11,066	2,024	6,986

XV. Summary of Comments and Responses

C. Housing and Population

TABLE XV.C.1: BACKGROUND FOR ESTIMATING TOTAL ADDITIONAL HOUSING THROUGHOUT THE REGION ASSOCIATED WITH PROJECT AREA EMPLOYMENT GROWTH (Continued)

NOTE: The regional estimates of additional housing associated with Project Area employment growth were developed for the Alternatives following an approach similar to that used in the EIR for estimating additional housing in San Francisco applying a citywide approach (see Volume Three, pp. XIV.C.27–XIV.C.37). The regional calculations are done separately for San Francisco and for the rest of the region, and the estimates totaled for the region overall.

/a/ See p. XIV.C.32 for explanation of the percent representing additional workers residing in San Francisco. The percent representing the additional workers residing in the rest of the region is the remainder (65.6% for Alternative A) after subtracting the additional workers residing in San Francisco (34.4% for Alternative A) from all additional workers (100%).

/b/ See pp. XIV.C.32–XIV.C.33 for explanation of the percent used to estimate the additional workers accommodated in additional households in San Francisco. The percent for the rest of the region is estimated similarly based on the future context scenarios for employed population and households in the four counties surrounding San Francisco where most of those commuting to San Francisco jobs would reside (San Mateo, Alameda, Contra Costa, and Marin Counties).

/c/ The workers-per-household factors were derived using an approach similar to that for the EIR analysis, described in the Appendix (see p. XIV.C.34), and the same data sources. However, for the regional estimates, the variable used for both San Francisco and the rest of the region (average number of workers in San Francisco households with workers employed in the Downtown & Vicinity) differs from that for the EIR's San Francisco analysis presented in Step 3 in Table XIV.C.15 (average number of San Francisco workers in City households with workers employed in the Downtown & Vicinity). The difference in variables reflects different purposes for the analyses.

For the EIR analysis of the San Francisco jobs/housing balance, applying the "San Francisco workers per household" ratio allocates households with San Francisco workers to San Francisco employment growth only, whether or not there are people living in the households who work elsewhere in the region. Actually, since households in San Francisco also house some people working elsewhere in the region, part of the need to accommodate additional households in the City could be attributable to employment growth outside San Francisco. Consequently, the regional approach would be to use the ratio describing "total workers per household" for associating additional housing in San Francisco with employment growth both in San Francisco and elsewhere in the region.

The Project Area calculations for San Francisco following a regional approach indicate a smaller number of additional San Francisco households and housing units associated with Project Area employment growth (for example, 3,255 housing units for Alternative A as shown in this table) than indicated in the San Francisco analysis in the EIR (3,511 housing units for Alternative A as shown in Table XIV.C.15, p. XIV.C.31). The number of households is smaller since the ratio used to allocate workers to households is larger (total workers per household in San Francisco is a larger number than only San Francisco workers per household). This is because, under the regional approach, the additional households are apportioned over a larger amount of employment growth.

/d/ These estimates are derived from the following calculations:

	Additional Project Area Employment	% in Step 1	x Step 2	% in Step 2 divided by Step 3	ratio in Step 3 divided by from Step 4
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The extent to which all employment and housing functions can be expected to be met within each community also depends on how jurisdictional boundaries are drawn. The center city is able to provide a better "match" of jobs and housing to the extent that its boundaries extend over a wider area than if they are limited to a smaller geographic area. For example, Houston, Phoenix, and Tucson are likely to have a better match of jobs and housing than San Francisco, Boston, or Washington, D.C. The former tend to include all or much of the regional area within their boundaries, whereas the latter are smaller parts of large metropolitan regions that include many jurisdictions. Within the Bay Area region, the land area of the City of San Francisco is relatively small, making it difficult to accommodate a "match" of jobs and housing there.

Generally, there is a close "match" between jobs and housing at the regional level. However, in the Bay Area, for the historic reasons noted above, jobs and housing do not "match" at the local level. While San Francisco recognizes that it must make strong efforts to provide additional housing, to some extent, the City will continue to depend on other jurisdictions in the region for housing just as those cities will depend on San Francisco for jobs. (Although the City will continue to depend on other jurisdictions in the region for housing, Mission Bay under Alternatives A and B would provide a "surplus" of housing in San Francisco that would accommodate other demand besides that associated with Project Area employment growth. This would include demand associated with employment growth elsewhere in the region as well as in other parts of San Francisco.)

It is appropriate for the EIR jobs/housing analysis to take a citywide approach and focus on Project Area housing and the additional households in San Francisco associated with Project Area job growth. It also is possible to provide more housing in Mission Bay than that needed (according to the EIR analysis) to accommodate the demand in San Francisco associated with Project Area job growth (as exemplified by Alternatives A and B). However, on a cumulative citywide basis, as opposed to a project basis, it may not be possible or realistic to expect that San Francisco could accommodate all regional housing demands associated with the City's workforce.

In addition to the conceptual problems described above, applying a regional approach for jobs/housing balance as a standard for evaluating new development projects in the City may not be feasible because of the large amount of new

housing production for San Francisco that would be necessary. Depending on the forecast of future San Francisco employment assumed, the total amount of housing associated with that employment growth (using the regional approach) could imply an amount of housing production larger than could be accommodated in the City.

Because of its historic role as a center city, land in San Francisco is already developed at relatively high densities and is valuable relative to land in other locations in the region. Thus, the housing that is built is generally in multiple-unit buildings, at relatively high densities for the region, and at relatively high prices and rents without substantial subsidies. To increase the amount of housing built in San Francisco over that assumed in the EIR probably would require rezoning industrially or commercially zoned land to residential use (in addition to the rezoning under consideration for Mission Bay) and also could depend on increases in densities in existing residential areas. Such rezoning could affect long-term job growth potential in the City and would raise issues of the trade-offs between residential and industrial/commercial land uses. Higher densities in existing residential areas could continue to be unpopular with existing residents. Finally, there would be questions about the marketability of the large amount of higher density housing implied by a regional approach. The depth of the market for that type of housing in San Francisco has not been tested and may be limited. As evidenced by current residence and commute patterns, many households with San Francisco workers prefer lower density housing in communities outside San Francisco.

To move beyond the expected future under existing policies is beyond the scope of impact analysis in the EIR. As it stands, the EIR provides information for decision-makers to use in choosing a land use program for Mission Bay. It indicates how the Alternatives measure up under the approach, assumptions, and standards used in the analysis. This Response provides additional information that may be useful in reviewing the Alternatives depending on the goals and priorities of decision-makers.

Comment

The City is at a cross roads as concerns growth. In the past we had growth at any cost. Now we have growth limited by priorities selected by the people to preserve their quality of life. EIR experts cannot properly select what we will do in the future. This is a matter of political choice. EIR predictions should cover our past directions (the current EIR) and a possible future

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(implementation of Prop M). Therefore the traffic congestion chart and cost of housing chart should also include parallel predictions based on the implementation of Prop "M" Priorities for "enhanced . . . opportunities for resident employment" and "enhanced . . . supply of affordable housing." If Prop M is somewhat implemented and more jobs in San Francisco are filled by San Franciscans then commute times will not increase so much. If Prop M is somewhat implemented there will be less employment growth and enough new housing so that housing becomes somewhat more affordable for all and we will have a decrease in the number of workers per household, because as it is stated in the EIR Appendix [C. p.J XIV.C.33: "upward pressure on housing prices/rents because of employment growth could contribute to increasing workers-per-household."

The steps which the people and Planning can do to implement these two Priorities of M are simple and have a good probability. (1) Mission Bay can be completed based on a development agreement much closer to EIR Alternate "B" than "A". (2) Zoning changes near the Bay and surrounding Downtown could continue to [convert] industrial and office uses to housing uses. (3) The good impacts of the start of the implementation of "M" could induce the people to vote for a "Son of M" which continues the current low level of office growth indefinitely. If these political steps are taken, we could by 2020 have a City which: (a) continues the current trend and have an even higher percentage of jobs in San Francisco filled by residents, and (b) have a slightly lower number of employed people per household than at present.

The table below reproduces a part of [p.] XIV.C.15 with additional columns 1981 and 1985 to give some historical perspective and the column w/Prop M to provide space for the results of calculation based on implementing Prop M. The lettered lines are additional data, from other EIR pages and a future with Prop M implemented, which must be used to produce the results included within the Table.

The . . . table along with the following comments shows more directly for the Mission Bay Project how the use of the same two priorities can produce parallel calculations with widely different conclusions from those in the EIR. Appendix page XIV.C.31, Table XIV.C.15 purports to show the additional housing required for those who will be employed in the Mission Bay Project in 2020. If we increase the percentage of SF jobs held by SF residents and we use the same arithmetic methods as the EIR, the percentage of Mission Bay workers who will need housing in SF increases from 34.4% to 64.8%. At the same time if we decrease the average number of workers per household throughout the City even a little, then the number of Mission Bay workers who can be accommodated by increasing the density in existing housing is a negative number or the percentage of new workers requiring additional housing is greater than 100%.

Thus the amount by which Mission Bay housing supply for Alternative "A" exceeds Mission Bay worker requirements goes from plus 4,190 units (per VI.C.72) to negative 8,731 units, or a severe increase in the shortage of housing. The EIR should also correct the columns for Alternatives "B" and "N".

	<u>1981</u>	<u>1985</u>	<u>Alt A</u>	<u>Alt A w/ Prop M</u>
a) SF Jobs Held by SF Residents	50.2%	52.3	45.6%	55.6%
b) SF Workers per SF Household	1.15	1.20	1.25	1.18
c) Workers per Downtown Household	.74	.78		
d) Workers per Mission Bay Household	NA	NA	[1.40 - see line 3, below]	1.00
 <i>Additional Employment in Mission Bay</i>			22,980	22,980
1. Percent SF Residents			34.4%	64.8%
2. Percent Requiring Additional SF Households			60%	100%
3. Downtown SF Workers per Household			1.40	1.00
4. Vacancy Rate			3.5%	3.5%
 <i>Additional Housing Required for MB Workers</i>			3,511	15,431

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Note on Line 3, the EIR has a compound error because it states that the number of Downtown workers per household is higher than the City average (this could be true because by definition this number excludes most retired and unemployed people, but this is not typical SF housing). The EIR then uses that number to calculate the number of Mission Bay units required instead of something between downtown and the rest of the City, which is to be expected due to location and unit size of Mission Bay housing.

If the City of San Francisco, lead by expert EIR writers, accepts the prediction that the number of workers per household will increase and therefore we don't seek every possible opportunity to build housing, the prediction will come true and future San Franciscans will have to spend more of their earnings for housing. If on the other hand the experts correct the EIR to show a range of predictions including those with successful implementation of the Priorities of Prop "M", the people will have the opportunity to make the choice to implement the priorities and maintain or improve their quality of life.

. . . [I]n '86 we passed Prop M, and they very cavalierly say: We are going to get exempted from Prop M. I think their whole planning process should have included at last [least] as an alternative the implementation of Prop M. . . .

Now, one of the things that happens, this project was supposed to produce a surplus of housing, more than . . . demanded by the workers who would be in . . . the Project Area. And so when they start to make assumptions about the increase of workers per household and the decrease in the percentage of jobs filled by San Franciscans, . . . that is what allows them to say that they provide the surplus. Indeed, they don't provide a surplus.

. . . [T]hey have made a tremendous compounding assumption about the numbers of workers per household in this particular project. They are saying it should be 1.40. The rest of the City right now has 1.20. The downtown type, small units -- a number of them are going to be in this project -- are about .78 right now. So they're saying 1.4. I don't know where they get that number. But it certainly helps them say that they have a surplus of housing. (Howard Strassner, Coalition for San Francisco Neighborhoods)

Response

Calculations to Reflect Goals for Jobs and Housing

Based on goals of enhancing the supply of

affordable housing in San Francisco and enhancing opportunities for resident employment, the commenter changes the values of the variables used in the EIR analysis to calculate housing associated with Project Area employment growth. The result is more additional housing demand in San Francisco associated with Project Area employment growth than indicated in the EIR.

The commenter's calculations provide an alternative to that in the EIR. As explained in the previous Response (see p. XV.C.5), the analytical framework for the EIR jobs/housing analysis also can be used to test various policies and/or objectives for achieving a different future outcome than what otherwise would be expected to occur. However, identifying a relationship between jobs and housing based on desirable goals is not the same as evaluating how each Alternative would affect what is expected to occur assuming existing policies and a reasonable future context for demographic, lifestyle, economic, housing market, and transportation factors and trends.

Thus, it is not appropriate to "correct" the EIR, as requested by the commenter, to show a range of calculations including those reflecting implementation of goals to "maintain or improve the quality of life" in San Francisco. While the EIR framework for the jobs/housing analysis also can be useful in choosing a land use mix for Mission Bay as part of the planning and decision-making process and the values of the variables can be changed to test policy goals or standards, the EIR approach assuming existing policies and technical assessment of what is most likely to occur is the most relevant for evaluating the likely effects of a particular land use program for the Project Area (i.e., the Alternatives or any other choices). The resultant comparison of Alternatives is the primary purpose of the Mission Bay EIR.

Changing the values of variables in the calculations to reflect certain goals does not necessarily mean that the outcome illustrated by the changed values actually could be achieved. Review of the commenter's revised calculations indicates that while the direction of change may be reasonable, the values of the variables do not appear to reflect a realistic future outcome. Many of the factors influencing future conditions are beyond the control of local actions and policies. Further, the values for each of the variables must be internally consistent, reflecting a complete future scenario of jobs, housing, and population. Although the commenter does not present a full future scenario, review of the numbers presented raises questions about whether they reflect a realistic outcome.

First, the commenter's changes reflect 1) a higher percentage of workers residing in San Francisco than otherwise expected, and 2) a lower ratio of workers-per-household than otherwise expected. To achieve changes in these directions would require more housing, households, and population in San Francisco and/or less employment in the City than forecast for the EIR scenarios. The Comment does not indicate the future citywide totals behind the values selected for the variables. However, some totals can be derived from the percentages and ratios presented.

If it is assumed that future citywide employment with Alternative A would still apply, the values of the variables presented imply a larger employed population and more housing units in San Francisco. In fact, they imply the addition of 135,770 housing units from 1986 through 2020, or an average increase of 3,880 units per year over that 35-year period. This amount of housing is larger than what could be accommodated under the current Residence Element and very large relative to past development and absorption. Thus, while that amount of housing production may be a desirable goal, there are questions about whether and how that amount might actually be achieved. (See the previous Response on p. XV.C.14 for discussion of related marketing questions and land use policy issues.)

Second, the commenter has mislabeled the variables from the EIR analysis dealing with workers-per-household and has introduced an inconsistency between variables. The item labeled "b) SF Workers per SF Household" in the commenter's table shows the overall average number of total workers-per-household in San Francisco. Thus, the title should read: "b) Workers per Household in SF." The item labeled "3. Downtown SF Workers per Household" is incorrectly named and should read, "3. SF Workers in City Households with Downtown Workers" as presented in Table XIV.C.15 (p. XIV.C.31 in Volume Three, Appendix C). If the correct variable labels are used, the values of these variables as proposed by the commenter are inconsistent. As shown in the EIR analysis from Table XIV.C.15, the average number of San Francisco workers in City households with downtown workers is larger than the average total number of workers across all of the City's households (including those without workers). Thus, the commenter's calculations must be revised to preserve consistency of approach (i.e., use of the same variables to reflect certain goals). (Responses to Comments about the appropriateness of different variables describing workers-per-household are presented below in the next section of this Response.)

The Comment also expresses some confusion regarding the EIR's treatment of Proposition M. As explained in the EIR (see Volume Two, Chapter IV. Study Approach and Organization, p. IV.11) the analysis assumes continuation of Proposition M throughout the build-out period. The assumption about exempting Mission Bay relates only to the annual limit on the approval of office building projects. That assumption does not affect the jobs/housing calculations except to the extent that it could affect the pace of office employment growth in Mission Bay and/or the rest of the Downtown & Vicinity. As discussed on p. VI.A.13 of Volume Two, VI.A. Public Plans, Policies and Permits, evaluation of Mission Bay development in light of the priority policies established by Proposition M is under the purview of decision-makers prior to approving a plan. In addition to environmental concerns, they must consider social and economic aspects of the project that fall outside the scope of the EIR.

Questions About Workers-Per-Household

The Variable Used in the EIR Calculations Is the Appropriate One. Several aspects of the Comment relate to the variable used in the jobs/housing calculations to convert workers into households. The commenter blurs the distinctions between different variables and overlooks the appropriateness of the variable used in the calculations for the purpose of the analysis. Thus, he incorrectly concludes that the EIR is in error.

The discussion in Volume Three, Appendix C, explains that Step 3 of the jobs/housing calculations converts the number of additional Project Area workers associated with household growth in San Francisco into an estimate of households (see Volume Three, p. XIV.C.34 and Table XIV.C.15 on p. XIV.C.31). The variable used to make the conversion represents the "average number of San Francisco workers in City households with downtown workers." The value of that variable is derived from survey data describing the characteristics of households with downtown workers. The survey data were analyzed specifically for the purposes of the jobs/housing analysis.

Data indicate that the average number of San Francisco workers in City households with downtown workers is larger than the average number of total workers in all City households. This is true because the first ratio excludes households without downtown workers (such as those of retired individuals or unemployed persons), while the second applies across all of the City's households.

Appendix C indicates for the calculations for Alternative A that the average number of San Francisco workers in City households with downtown workers is 1.40 (see Volume Three, Table XIV.C.15 on p. XIV.C.31). That factor is derived from the 1981 C-3 District and 1982 South of Market/Folsom Employer and Employee Surveys and 1980 Census data. It can be compared with the citywide average number of workers-per-household from the 1980 Census of 1.15 and the citywide average of 1.20 estimated for 1985 (see Volume Two, Table VI.C.1 on p. VI.C.8). The variable used in the jobs/housing calculations (1.40) reflects the specific characteristics of the households in San Francisco that include workers of the types to be employed in Mission Bay. The citywide average number of workers-per-household (1.15-1.20) reflects an average for all households. The numbers are consistent; they differ because they reflect the characteristics of different sets of households.

The variable used in Step 3 (average number of San Francisco workers in City households with downtown workers) is the appropriate one for the jobs/housing analysis in the EIR. Because Step 3 is done to convert additional workers into households, it uses the ratio that applies to households with workers rather than the overall citywide ratio for all households. Use of this variable does not imply that the analysis overlooks housing for other types of households (such as those of retired and unemployed persons). The calculations identify the housing needed to accommodate additional Project Area workers. That estimate is then compared to the amount of housing to be built in the Project Area. The difference is the amount of housing available to satisfy other needs. This would include the housing needs of households without workers as well as households with persons employed elsewhere in the City and region.

In challenging the EIR analysis, the commenter identifies three different variables: the average number of San Francisco workers in City households with downtown workers (1.40), the overall citywide average of total workers-per-household (1.20), and an overall average workers-per-household for those living in the Downtown & Vicinity (0.78). He suggests that the EIR's use of the first variable above (1.40) in the jobs/housing calculations unfairly influences the conclusions because it results in the smallest number of additional housing units (since it divides the number of Project Area workers by the largest number of workers-per-household).

As described above, the number used in the calculations (1.40) was chosen because it represents the appropriate variable for purposes

of the EIR analysis. That variable specifically reflects the characteristics of households in San Francisco with workers of the types to be employed in Mission Bay.

The commenter suggests the use of the ratio for households living in the Downtown & Vicinity (0.78) because it is more typical of "downtown type, small units." There are two points to clarify in response. First, the analysis does not assume that all of the additional Project Area workers to reside in San Francisco would live in the Downtown & Vicinity. Some would live downtown but others would live in other parts of the City. Thus, the ratio used applies to downtown worker households throughout the City. Second, the EIR Setting describes the households residing in the Downtown & Vicinity and explains that many are not typical of households with downtown workers (see Volume Two, pp. VI.C.11-VI.C.15). It describes the special role of the downtown area as home to many single-person households, a large share of the City's elderly who are beyond their working years, and the unemployed, disabled, and others needing public assistance. Although there is some newer housing serving the downtown workforce, the area's older housing stock serves the needs of immigrants, the elderly, the unemployed, and others seeking low-cost housing and access to public services. These types of households are the types represented by the relatively low (0.78) workers-per-household factor.

As a further point of clarification, line d) in the commenter's table incorrectly identifies 1.40 as the EIR estimate of the average number of workers-per-household in Mission Bay. If the intent is to identify the average number of workers-per-household for the population to reside in Mission Bay, the EIR estimate is 1.17. That variable is not used in the jobs/housing calculations primarily because it is not assumed that all of the additional Project Area workers to reside in San Francisco would live in Mission Bay. Further, that variable is an average for all households residing in Mission Bay. The value of the variable for only households with workers would be higher since some households of retired or other unemployed persons are expected in Mission Bay.

Increases in Workers-Per-Household Reflect Many Factors

The commenter discusses the ratio of workers-per-household as a measure of "quality of life," attributes increases in this ratio to employment growth and the shortage of housing in the City, and regards increases in

workers-per-household as undesirable and having a negative impact on the quality of life in the City. Statements supporting this line of reasoning are attributed incorrectly to the EIR.

Early in the Comment, a quote from p. XIV.C.33 of Volume Three, Appendix C, is presented: "Upward pressure on housing prices/rents because of employment growth could contribute to increasing workers-per-household." That statement is part of a longer discussion presented in full below for clarification:

Increases in workers-per-household will occur for many reasons, resulting in more workers living in the City without adding housing units. For example, increases in workers-per-household reflect higher labor force participation (more women work, a larger percentage of the population in their labor force years) and stronger preferences among working adults for living in San Francisco. Increases in workers-per-household also reflect lifestyle preferences (more unrelated individuals in their labor force years living together), adaptations to housing costs (more workers living together for housing affordability reasons), and other factors (cultural or ethnic factors supporting extended families or multi-family households). Of all of those types of changes, most are not attributable to employment growth. [Emphasis intended.] They reflect broad demographic, socio-economic, lifestyle, housing market, and other factors. Some of the changes, however, can be related to employment growth. For example, upward pressure on housing prices/rents because of employment growth could contribute to increasing workers-per-household. The effects of employment growth cannot be separately identified, however. [Emphasis intended.] Further, changes in behavior cannot always be related to only one reason and may reflect a combination of factors.

It is important to understand that increases in workers-per-household reflect broad demographic, socio-economic, lifestyle, housing market, and other factors. Most of the changes in those factors are not attributable to employment growth. Many of the changes are not undesirable events. Further, many cannot be influenced by local actions and policies. For example, increases in the labor force participation of women reflect positive changes for many of those newly employed. Changes in the age distribution of the population resulting in a larger percentage in their labor force years (as a result of the aging of the baby boom generation) is not necessarily an undesirable event, and certainly not one that can be directly influenced by local policies.

The Comment implies that the EIR shows large increases over time in the workers-per-household ratio in San Francisco. However, the EIR Setting identifies the citywide average number of workers-per-household at 1.15 in 1980 and 1.20 in 1985. The future context assumes a higher ratio of 1.247 in 2000 (see Volume Two, pp. VI.C.41-VI.C.42) and a stable ratio thereafter, remaining at 1.247 in 2020 (see Volume Two, pp. VI.C.48-VI.C.49). Confusion about large changes in the future may have arisen by comparing different variables (rather than the same variable at different points in time) and mistakenly assuming that the differences between them reflected changes over time.

Comment

And at some point, it seems reasonable to ask this Commission, if you are going to put four million square feet of office space south of Townsend, and based upon actions taken by this Commission just last week, space at equivalent densities just north of Townsend of another eight million square feet of commercial office space in the expanded SSO District of the South of Market -- land twice the size of the land earmarked in this EIR for four million square feet you have just generated just across the street at Townsend -- where is the workforce for that 12 million, that combined 123 million square feet of commercial office space, going to live in San Francisco? What is the cumulative effect of this Commission's decisions to keep constant four million square feet of commercial office space in Mission Bay, and now land area able to carry up to eight million square feet of commercial office space just across the street?

If this project, as described in the various realities of your EIR, cannot serve the workforce needs, the housing needs of the workforce, where is the workforce with these new offices that you have just generated in the South of Market going to go? At what point do we as a City say that we must have transit capacity to move, by the basis of your EIR, 4,000 workers per million square feet of commercial office space in round numbers, four million square feet in Mission Bay, . . . [and] eight million square feet in South of Market? Where [are] we going to move? How are we going to move 42,000 or so people in and out [of] this corridor?

. . . [A]sk yourself and ask your department how are they to be housed, and where are they to be housed, at what rents able to be afforded by workers in this 12 million square feet of commercial office space that you're fixing to approve for this part of San Francisco? (Calvin Welch, Council of Community Housing Organizations)

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Response

The commenter raises issues related to the cumulative perspective of the EIR analysis. The commenter questions whether the impact analysis has accounted for all components of future growth in addition to Mission Bay and whether the EIR underestimates the housing needs of the workforce as a result of underestimating total cumulative growth.

First, for clarification as to the amount of office development considered for the South of Market area, the commenter is referred to XV.B. Land Use, Business Activity, and Employment, pp. XV.B.16-XV.B.18. That Response explains that the total amount of office space analyzed in the South of Market EIR represents an increase by the year 2000 of three million square feet of space over the amount of office space in the area in 1985. About four million square feet of occupied office space existed in the South of Market area in 1985. The increment attributable to growth would be the workers in the additional three million square feet, not the total workforce in the seven to eight million square feet occupied in the year 2000, as implied by the commenter.

The Mission Bay EIR housing, transportation, and air quality analyses incorporate assessment of Mission Bay and cumulative growth through 2000 and 2020. The amount of activity expected in the Project Area is analyzed along with the amount expected in the rest of the Downtown & Vicinity (including the South of Market area). These aspects of the EIR analysis are based on the supposition that the rest of the world also will be changing over time. Business activity and employment will continue to grow and housing will continue to be built in the rest of the City and the rest of the region. This future growth and change is built into the future context scenarios that are described and analyzed in the EIR. The expected future scenarios for cumulative growth in the Downtown & Vicinity and the background discussion of business activity, employment, housing, and population in San Francisco and the Bay Area region are presented in the Future Context sections of the EIR (see Volume Two, VI.B. Land Use, Business Activity, and Employment, pp. VI.B.50-VI.B.79, and VI.C. Housing and Population, pp. VI.C.36-VI.C.63). The subsequent impact assessment accounts for the fact that other future development besides Mission Bay will accommodate workers, thus putting demands on the housing market and on transportation systems. The housing market impacts are described in the EIR under the heading "Implications of Cumulative Growth for Future Housing Market Conditions" (emphasis intended) (see Volume Two, pp. VI.C.83-VI.C.84).

The EIR analysis answers the commenter's questions about where the workforce in Mission Bay and other San Francisco development would be housed. The EIR analysis reflects a comprehensive accounting of future housing supply, households, population, employed population, and employment in San Francisco and the rest of the region. The results describing where workers would live (considering cumulative total employment in the Downtown & Vicinity) are presented on pp. VI.C.55-VI.C.63 of Volume Two.

Those residence patterns describe a reasonable allocation of workers among places of residence in San Francisco and throughout the region. The residence patterns analysis considered all jobs, housing, and employed population in the region to assure that there would be a reasonable "match" at the regional level. Pages VI.C.52-VI.C.55 of Volume Two present the basis for the conclusion that all cumulative growth in the region could be accommodated under the future scenario developed for the EIR. The citywide and regional scenarios and sources are presented on pp. VI.C.38-VI.C.51 of Volume Two.

Because the EIR accounts for cumulative totals, it does not underestimate the housing needs of the workforce as suggested by the commenter. In addition, regarding the question of housing needs, it is important to understand that the cumulative analysis in the Mission Bay EIR is not a housing "needs" analysis in which future housing market conditions are evaluated against standards for an acceptable or desirable outcome. Rather, as an impact analysis, the EIR describes the likely future outcome based on the relevant factors, trends, and adopted policies. The EIR identifies what is expected to occur and goes on to describe the resultant impacts in terms of changes over time and differences among Alternatives in housing market conditions, housing choices, commute patterns, and travel conditions. Whether or not those conditions are acceptable or desirable is for decision-makers and the public to determine. (See also the Response dealing with differences between an EIR analysis and a housing needs analysis in XV.C. Housing and Population, pp. XV.C.4-XV.C.5.)

Comments

The document, as you all know, is designed to inform policy makers, such as yourselves, about salient issues. Obviously, that is difficult to do when we really don't have a project before us. We have the Department of City Planning staff's best guess, which is Alternative A. We have basically a cartoon, which is, I guess, your staff's

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worst guess, which is a 10,000 housing unit -- as I say, a kind of cartoon. And then we have the no-project alternative.

Nonetheless, given the rather odd ethereal nature of the project discussed, certain salient issues are revealed, not the least of which is affordable housing. The EIR demonstrates what many of us have been concerned about for some years now. This will not be a housing plus for the City. It will be a net housing drain in terms of housing able to be afforded by a workforce.

Mission Bay, even in any of [the] Alternatives described in your EIR, will not even be able to house the workforce generated by the four million square feet of commercial office building in Mission Bay -- that is, the number of affordable units, the number of units able to be afforded by the projected workforce. Your EIR points out about 28 percent of the workforce will be able to afford any of the housing in Mission Bay. Therefore, it's crucially important that this Commission make very clear to staff and to the developer and to the City departments that are, as we speak, negotiating a final disposition agreement on a real project that there must be, at a minimum, sufficient housing to house the workforce generated by Mission Bay. The paper I have submitted to you goes into that in very real detail.

. . . [T]he only thing that has remained constant in all of the discussions with staff and all of the discussions we have had with the developer, is not . . . that this project must produce sufficient affordable housing to not only address the workforce needs generated in Mission Bay, but contribute to solving the City's affordable housing. That has not been the constant. The constant has been that this project will carry four million square feet of commercial office space. That is the constant. (Calvin Welch, Council of Community Housing Organizations)

On housing and jobs, . . . if you take a look at the EIR, you discover that two-thirds, at least, possibly as many as three-quarters, of all the new employees in Mission Bay will be unable to afford a single housing unit in Mission Bay. Two-thirds to three-quarters of the workforce, the lower end of the employment in income scale there, will be exported to the rest of the City to solve the need, an already overstretched housing affordability market already in crisis shape.

You will discover that Mission Bay will gentrify Potrero Hill, lower Potrero Hill as well, particularly Dog Patch, the South of Market, and the Inner Mission. Those are the direct impacts threatening areas that hold some of the few

remaining unsubsidized but nevertheless affordable housing in San Francisco -- again, contributing to the citywide affordability crisis.

You will find that if you consider cumulatively the development of Mission Bay, Rincon Point, South Beach, Rincon Hill, the South of Market, particularly if you folks persist in adding office units into that area, constitutes a massive enclave in that part of the City set aside for employment opportunities that principally are targeted to professional white collar employment, housing that is particularly targeted to that income group, a variety of open space, cultural, recreational, entertainment amenities targeted to that group, which the EIR admits will greatly enhance the attractiveness of living in San Francisco, probably resulting in a greater percentage of new workforce expected to reside in San Francisco than in the past -- again, further exacerbating a citywide housing affordability crisis. (Rene Cazenave, San Francisco Council of Community Housing Organizations)

The current housing affordability crisis will become much more severe due to the housing demands that will be cumulatively generated by employees in new commercial development.

The EIR states that San Francisco is experiencing a housing affordability crisis and that it is likely to worsen. It shows that low and moderate income households will have less ability to compete for housing and that competition will allow them fewer housing options.

Over the next thirty years, competition for housing will remain fierce. The EIR presumes that much of Mission Bay's lower income workforce will be forced onto the City's overextended housing market elsewhere in the City. The EIR paints a future where affordable housing is not being built to house the workforce mix which will be working in downtown San Francisco, while existing affordable housing will be gentrified as higher income groups compete for housing.

The EIR therefore indicates that the deficit in affordable housing demand over supply will continue to increase. The EIR leaves little hope that this problem can be addressed, and it offers no real solutions.

We have a quarrel that the rhetoric of the Environmental Impact Report suggests no significant long-term differences in environmental impacts between Alternatives A and B. As you read it, that's the kind of feel that it keeps throwing at you. We believe there are significant differences, that rhetoric is misleading.

There are two keys in assessing the Mission Bay Alternatives. First, even under Alternative B, which incorporates Prop M office space construction limits, San Francisco will be a vital employment center. Its employment force is growing by 135,000, almost 25 percent, by the year 2000.

Second, the shortage of housing and affordability crisis is at present projected to get worse. ABAG finds a region-wide housing shortage of 288,000 by 1995, a shortage the Bay Area Council feels is understated. Only 12 percent of Bay Area residents can afford the mortgage on an average house -- that is, assuming they have the \$42,000 down payment. Even more troubling is the situation facing moderate- and low-income residents where older housing is trickling up, being occupied by people with higher incomes than previously.

ABAG projects that San Francisco's housing shortage by 1995 will exceed 23,000 units based upon a projected employment growth of 55,000. Yet, even under Alternative B, the City is projected to add only 37,500 units by the year 2020, despite an increase of 200,000 employees.

This scenario suggests an almost catastrophic worsening of the housing affordability crisis for an increasing range of household incomes. These job growth and housing affordability factors must be kept in mind in evaluating the EIR Alternatives. The EIR obscures these issues in minimizing the differences of the Alternatives and net housing surplus at build-out. (Alan Raznick, San Franciscans for Reasonable Growth)

. . . The myth is that it will help solve San Francisco's housing problem. Mission Bay as outlined in the Draft EIR Alternative A will not help the San Francisco housing problem. Mission Bay will aggravate the problem.

Alternative A will increase the cost of housing to everyone in San Francisco except the lucky 3500 winners of affordable housing units in Mission Bay. . . .

Under Alternative A, which is essentially the MOU signed by Mayor Feinstein, Mission Bay will produce 7,500 to 8,000 housing units, but, at the same time, it will produce 4.1 million square feet of office space, the sort of secondary office space that stands empty throughout the South of Market area.

The reason for this preference on the developer's part is clear. While housing rents for approximately a dollar a square foot, office

space, even so-called secondary back-office space, whatever they want to call it, rents for two-fifty to three dollars a square foot. The difference in income on four million square feet of office building is more than \$6 million a month, \$72 million a year, and pretty soon that mounts up. \$72 million a year is what it's worth to Santa Fe to get this office space.

But what is it going to cost San Francisco? And furthermore, the production of housing at Mission Bay is tied to the production of office space. Any slowdown in the office market will slow down the production of housing. (Ira Kurlander, San Francisco Tomorrow)

Response

The Problem of Housing Affordability Is Not Ignored; It Is Part of the Future Housing Market Context

Housing affordability problems, or the lack of affordable housing and the high prices of housing relative to what households can afford to pay, are key features of current housing market conditions in San Francisco and the rest of the Bay Area region. In VI.C. Housing and Population, the Setting section describes these conditions and the implications of the current "shortfall" in affordable new housing: housing prices and rents among the highest in the nation, limited housing choices, household adaptations, the need to spend a higher share of income for housing, and demand pressures on existing housing leading to neighborhood change and gentrification. (See Volume Two, pp. VI.C.1-VI.C.6, and Volume Three, pp. XIV.C.1-XIV.C.2.)

The future housing market scenario underlying analysis of the housing market impacts of Mission Bay development is described in the EIR and reflects the expectation that conditions will not be much changed from those of the mid-1980s, particularly with respect to housing affordability. There will continue to be strong demand for housing, and it will continue to be difficult to produce affordable new housing. There will continue to be gentrification pressures. Some people will have to move out of the City or out of the region to find housing they can afford; others will live together to share housing expenses or devote larger portions of their income to housing. The housing conditions and choices of moderate- and lower-income households, generally dependent on older housing and rental housing stock, will continue to be the most limited. (See Volume Two, pp. VI.C.81-VI.C.84.)

The persistence of housing affordability problems is attributable to their origin in a complex web of housing market factors. (See Volume Two, pp. VI.C.1-VI.C.6 and p. VI.C.38.) The problem of housing affordability is not peculiar to San Francisco or to the Bay Area region. Some of the roots of the problem are beyond local control. Part of the housing affordability problem is rooted in national factors affecting the availability and cost of mortgage finance and the extent of government support for housing production. Other aspects are attributable to high land and construction costs, impact fees, and zoning policies -- factors that affect the supply side of the housing market. While changes in local factors such as zoning and land use policy can contribute to improving the situation, those factors alone cannot be expected to solve the full extent of the problem.

On the demand side, housing affordability problems are accentuated by a strong regional economy supporting job and income growth, the appeal of the Bay Area's quality of life, and its environmental and cultural amenities, as well as by underlying demographic factors.

Given the current outlook for supply, cost, and financing factors, and assuming continued demand for housing in the region, the most reasonable assessment for the future housing market context in the Mission Bay EIR analysis is that producing affordable housing will be difficult. Only significant changes in government support for housing production (e.g., subsidies, zoning changes), or in the cost of financing would justify a different assessment. In general, at this time, significant changes of these types are not foreseen and thus are not justified as assumptions for the EIR housing market context.

The implications of cumulative growth for future housing market conditions are incorporated in the future housing market scenario described in Volume Two on pp. VI.C.83-VI.C.84. Mission Bay would contribute to the implications cited in proportion to its contribution on the demand side to cumulative employment growth and on the supply side to the amount of housing produced. The supply side is where the range of zoning changes and subsidy levels represented by the Alternatives and variants would make the most difference in future housing market conditions. The differences are described for the Alternatives in Volume Two on pp. VI.C.84-VI.C.86. The implications of variations in the percentage of affordable housing are described on pp. VII.47-VII.51 of Volume Two, Chapter VII. Variations on Alternatives.

The EIR discussion points out that the benefits of Mission Bay housing would be most evident in the middle range of the market; in Mission Bay, depending on the Alternative, subsidized affordable units would be provided and there would be market-rate units at prices and rents at the lower end of the range for producing housing without subsidy. The EIR states that Mission Bay housing would not have direct benefits for the lower end of the affordable housing market since the large subsidies needed to provide new housing for low-income households are not proposed for the Mission Bay Alternatives.

The problem of providing new housing for lower-income households demands a broader range of solutions than offered by the Mission Bay Alternatives. Given the magnitude of the difference between the costs of producing new housing and the prices/rents that lower-income households can afford, a critical factor is the depth of the subsidy.

What Do the Alternatives Mean for Housing Affordability in San Francisco

The Mission Bay EIR does not say that the housing affordability crisis in San Francisco is likely to worsen or that Alternative A will aggravate San Francisco's housing problems.

The continued housing problems identified in the EIR and in the discussion above are not attributable to any particular Mission Bay Alternative. It also is true that Mission Bay development cannot be expected to solve the City's affordable housing problems. Nevertheless, the Alternatives analyzed in the EIR would affect housing supply and demand in the City and represent a fairly broad range of options. In comparing the Alternatives, the EIR identifies which sets of options would be better for the City's housing market and which would be worse. (See Volume Two, pp. VI.C.84-VI.C.86.)

The conclusion of that comparative analysis is that Alternative N (the No Project Alternative) would be the worst choice from the perspective of the City's housing market. Alternative N would add to demand without adding anything to housing supply. Contrary to the statements of the commenters, Alternative A would not aggravate the problem but would result in better housing market conditions than would be expected if no master-planned development occurred in Mission Bay (the situation with Alternative N). Alternative A would contribute to demand but also would contribute substantially to housing

supply. The EIR illustrates that changing the zoning in the Project Area to accommodate large amounts of housing results in a better future housing market than that expected if no change were made. The results with Alternative B, adding less on the demand side and more on the supply side, would be even better than with Alternative A.

Planning Responses to the Housing Affordability Problem: The Role of Mission Bay

The commenters argue that Mission Bay and the cumulative development scenario of which it would be a part would accommodate employment growth, including workers in lower-income households, without providing for the housing needs of lower-income households. The City does have policies and means of addressing aspects of this complicated problem.

The office development component of cumulative growth would contribute, through the Office Affordable Housing Production Program (OAHPP) requirement, to housing development in the City. The OAHPP includes the requirement that 62% of the housing units created under that program must be affordable to households of low or moderate income. The San Francisco Redevelopment Agency also is active in the production of affordable housing. The Agency's most recent Mission Statement (adopted April 11, 1989) incorporates housing policy criteria that focus on the provision of low- and moderate-income housing. That part of the cumulative development scenario occurring in designated Redevelopment Areas could contribute by means of the tax increment to achieving the Agency's goals for low- and moderate-income housing assistance.

In addition, the Mayor's office is leading a citywide effort to provide more affordable housing in San Francisco. The Mayor's Housing Advisory Committee recently examined San Francisco's housing conditions and problems, particularly those of households earning below median income. The Committee's draft report, "An Affordable Housing Action Plan for San Francisco" (May 1989) presents a number of recommendations for initiating and financing the new development and rehabilitation of affordable housing. Implementation of these recommendations would increase the supply and availability of affordable housing in San Francisco.

It is true that Mission Bay (as evaluated in the Alternatives analyzed in the EIR) would not provide housing at prices and rents affordable to

all the lower-income households whose members might hold jobs in the Project Area. Several of the variants improve upon the ability of the Alternatives to provide housing affordable to the Project Area workforce. (See Variant 8 [Variations in the Percentage of Affordable Housing and the Size of Affordable Units], in Volume Two, Chapter VII. Variations on Alternatives, pp. VII.48-VII.50; and Variants 11 [EIR Hearing Proposal] and 12 [Development Agreement Application] in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and pp. XV.P.27-XV.P.46, respectively.) However, none provide housing affordable to all the lower-income households with workers holding Project Area jobs. The housing needs of lower-income households are serious; they have and will continue to require broad-based solutions.

While the Mission Bay Alternatives would not offer direct solutions to the housing problems faced by many lower-income households, housing in Mission Bay such as that incorporated in Alternative A or B would have benefits for other segments of the housing market, as described in the EIR and summarized above. Therefore, rejecting Mission Bay development because of the lack of solutions for the housing problems of lower-income households also would mean rejecting improvements to other segments of the housing market that could be realized in San Francisco only with master-planned development of the scale envisioned for the Mission Bay Project Area, as exemplified in Alternatives A and B.

Alternatively, the above-mentioned argument could be used to justify a development program for Mission Bay that accommodates little or no employment growth (thus contributing nothing on the demand side) but provides for substantial housing development. Such a conclusion should recognize the trade-offs involved; the EIR identifies most of the concerns. For example, a "no jobs" or "low jobs" development program would sacrifice long-term economic development opportunities offered by Mission Bay commercial development: the Project Area could provide sites for large-scale buildings to accommodate government and other back-office jobs that otherwise might locate outside San Francisco. Moreover, for some time into the future, much of the business activity and employment that could be accommodated in Mission Bay would instead locate elsewhere in the Downtown & Vicinity or in other Nearby Areas if there were no location options in the Project Area. Consequently, much of the job growth would still occur, meaning much of the demand for housing would still be there and there would be more development pressure affecting existing businesses in other parts of the City.

Finally, although project financial issues are not part of the EIR analysis, they have been studied as part of the planning process and are the subject of the development agreement negotiations. As noted by the commenters, there is a financial link between the mix of commercial and industrial revenue-generating uses in the Project Area and the ability of both the City and the private developer to provide subsidies for affordable housing. At one extreme, a development program for the Project Area that sacrificed a mix of revenue-generating uses for an "all housing" plan might limit the magnitude of the housing subsidy benefits that could be provided.

The commenters state that there must at a minimum be sufficient housing to house the workforce associated with Mission Bay development. In the jobs/housing analysis the EIR clearly indicates how far the Alternatives and variants go in this direction. (In Volume Two, see VI.C. Housing and Population, pp. VI.C.68-VI.C.77, and Chapter VII. Variations on Alternatives, pp. VII.4, VII.13, VII.19-VII.21, VII.34, VII.43-VII.45, and VII.49-VII.50; in this volume, see XV.P. Alternatives and Variants, pp. XV.P.15-XV.P.17 and XV.P.36-XV.P.38.) It is left to policy-makers, staff, interested citizens, and the developer, in the course of devising a plan and negotiating a development agreement for implementation of that plan, to decide on the terms for the Project Area jobs/housing balance.

Clarification Regarding the Ability of Mission Bay Housing to Accommodate the Project Area Workforce

In the process of pointing out that there will be workers in the Project Area who could not afford new housing in Mission Bay, two of the commenters incorrectly summarize information from the EIR. It is not correct that only "about 28% of the workforce will be able to afford any of the housing in Mission Bay." Similarly, it is not accurate to state that the EIR indicates that "two-thirds, at least, [and] possibly as many as three-quarters of all the new employees in Mission Bay will be unable to afford a single housing unit in Mission Bay."

Correct interpretation of the information in the EIR would be that, under Alternative A, about 40% of the households with Project Area workers expected to reside in San Francisco would have incomes high enough to pay the prices assumed for new housing in Mission Bay. About 60% would not be able to afford the new housing. The percentages would be only slightly different for Alternative B: about 38% would be able to afford new housing in Mission Bay and about 62%

would not. These estimates are based on housing price assumptions for the Alternatives (see Volume Two, p. VI.C.70) and generalized assumptions about household incomes and the ability to pay for housing based on that income (see pp. VI.C.69-VI.C.70 of Volume Two and pp. XIV.C.34-XIV.C.37 of Volume Three).

Compared to the Alternatives, Variant 12 (Development Agreement Application) changes the assumptions about the prices and rents of affordable housing in Mission Bay, resulting in a broader range of prices and rents for new housing in the Project Area (see XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46 of this volume). Under those assumptions, about 65% of the households with Project Area workers expected to reside in San Francisco would be able to afford new housing in Mission Bay. About 35% would not.

The EIR points out on p. VI.C.69 of Volume Two that it is not expected that the housing prices that could be supported by household incomes of Project Area workers would match the housing prices of new units built in the Project Area. That is because it is not possible to provide new housing in San Francisco for all income groups without large subsidies. The difficulties of producing new housing at affordable prices/rents for a large segment of the population are not unique to San Francisco or Mission Bay; they exist throughout the region and nation.

Comment

The Final EIR should expand its discussion of housing affordability to indicate the shortfall in San Francisco and Bay Area counties currently and in the year 2000.

The Mission Bay EIR paints a bleak picture of housing affordability, but the real picture is probably even bleaker. The September 1988 Bay Area Council "Housing and Development Report" indicates substantial existing shortfalls in affordable housing in San Francisco and throughout the Bay Area. . . [It] show[s] an over 7,000 unit shortfall in San Francisco and 120,000 unit shortfall in the Bay Area by 1990. The report indicates that no counties are building affordable housing to sufficiently accommodate new employees in the lower income ranges.

The Mission Bay EIR presumes that some of the affordability problem will be met by other jurisdictions. The Bay Area Council comes to the opposite conclusion. Since the Mission Bay EIR was written before this Bay Area Council report,

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the final EIR should comment on its accuracy and include a section which explicitly addresses whether San Francisco or any other cities will be able to help meet the shortfall in affordable housing. If no cities or counties can, the EIR should be modified to explain the social and economic impacts of insufficient affordable housing. (Alan Raznick, San Franciscans for Reasonable Growth)

Response

The commenter asks for further discussion and quantification of the shortfall of affordable housing in San Francisco and other Bay Area counties. However, it is not necessary to quantify a shortfall to demonstrate that severe problems exist. Moreover, the shortfall calculations prepared by the Bay Area Council (as well as the shortfalls identified as housing needs by ABAG) are determined according to goals for housing market conditions. For policy discussion, for highlighting where public and private sector efforts are needed, and how policies could be changed, that approach makes sense. The EIR analysis, on the other hand, is not based on goals. The EIR consideration of housing market impacts begins with evaluation of conditions that actually exist under current policies and assumptions about the likely persistence of those conditions (and their associated problems). The EIR can then present conclusions about the difference the Alternatives might make for those future conditions. (See also the Response on pp. XV.C.4-XV.C.5 that discusses differences between the EIR analysis and a citywide housing needs analysis.)

The commenter asks about the accuracy of the September 1988 Bay Area Council Housing and Development Report. The Council report is accurate and consistent with the Mission Bay EIR analysis, though each evaluates and describes housing market conditions in its own manner, according to its own purpose. By compiling data and reporting on public and private sector weaknesses and strengths with regard to residential development, the Bay Area Council does a good job of drawing attention to the severity of the region's housing affordability problem. (The commenter is referred to the Council's revised analysis of Bay Area Housing Production, 1980-1990, in the Housing and Development Report, March 1989, Volume 2, Number 3.)

The commenter has misinterpreted the Bay Area Council table presented in the September 1988 issue of the Housing and Development Report. While the picture described by the Bay Area Council and the Mission Bay EIR may be

troubling, it is not as "bleak" as the commenter has implied from his reading of the table, particularly with regard to San Francisco's affordable housing production. The table compares low-income housing produced to ABAG estimates of 1980-1990 low-income housing need for each Bay Area county. The middle column of the table shows the ABAG estimate of 7,100 units needed in San Francisco and 120,000 units needed in the entire nine-county region. The first column of the table shows the affordable units built through 1988: 4,300 units in San Francisco and 19,000 units in the entire region. For San Francisco, the "shortfall" is the difference between 7,100 units needed and 4,300 units produced, or 2,800 units. The last column of the table shows, in percentage terms for comparison among counties, how much of each county's need is unmet. According to this measure, San Francisco does substantially better in meeting its need than do any of the other Bay Area counties. In San Francisco, the shortfall is 40% of the estimated need, while the shortfall in the other counties is more, ranging from 66% to 98%. For the region overall, the shortfall is 81% of the estimated need.

The future context for housing production and the future housing market scenario presented in the Mission Bay EIR describe the social and economic implications of a continued shortfall in affordable housing production. In the future, more of the labor force to support job growth in the region will come from communities where housing is relatively more affordable outside the nine Bay Area counties. Housing choices will remain limited. Some households will continue to need two or more workers to support housing costs. There will continue to be gentrification pressures on the older housing stock, and the housing needs of low-income households will continue to be the most difficult to satisfy. (See Volume Two, pp. VI.C.37-VI.C.38, VI.C.51-VI.C.53, and VI.C.81-VI.C.84.) Alternatively, employment and economic activity will not grow at the rates expected since the labor force needed to support that growth cannot find affordable housing in the region.

Comment

Recognizing that we are a region of interconnected jurisdictions, it is important that substantial projects such as Mission Bay be analyzed in a larger context than San Francisco alone. ABAG's latest analysis of labor force growth in the region indicates that future supplies of labor will not be as available in communities outside of San Francisco. Since San Francisco has relied heavily on a non-resident labor force

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for economic expansion, it is important that Mission Bay be considered in the context of providing substantial numbers of housing units to sustain economic growth of San Francisco. We recognize the private development constraints with respect to the mix of jobs and housing, but believe a maximum level of housing should be emphasized for the project. We no longer see housing production as simply a need of an expanding economy. Rather we see it as essential to maintaining the economic vitality of the Bay Area and maximizing opportunities for its residents. Housing built close to work will not only provide the critical labor supply for further growth, it will partially mitigate the worsening and unmanageable deterioration of the regional highway network. . . .

We think, however, every effort should be made to increase the quantity of housing by changing the mix, not density, of jobs to housing in the project. (Gary Binger, Association of Bay Area Governments)

Response

On p. VI.C.93 of Volume Two, the Mission Bay EIR states: "In the large Mission Bay Project Area, there is the potential for adding to the City's housing supply so that San Francisco could house more of its own employment growth than otherwise." Of the Alternatives analyzed in the EIR, Alternatives A and B address this objective; Alternative N does not.

Mission Bay was analyzed in the context of future regional growth and development patterns. As stated in the Future Context section of VI.C. Housing and Population, employment growth throughout the region and growth of employed population occupying the region's housing were considered in the EIR analyses in terms of: 1) how the forecasts of employment compare to the forecasts of employed population, and 2) how employment and employed population are distributed throughout the region. (See Volume Two, p. VI.C.52.)

The EIR explains that future economic growth will be affected by growth of the labor force. The future growth scenarios reflect the expectation that the labor force will grow more slowly in the future than in the past, contributing to slower economic growth at national, regional, and local levels. (See Volume Two, VI.B. Land Use, Business Activity, and Employment, p. VI.B.52 and p. VI.B.78; and VI.C. Housing and Population, p. VI.C.46.)

The EIR also describes how the region is expected to expand over time as an economic unit. (See Volume Two, pp. VI.C.51-VI.C.53.) Although San Francisco is expected to retain its position as a central city, employment centers in other parts of the Bay Area will experience rapid growth. More people working in the Bay Area will choose to live in the relatively more affordable housing built in outlying Bay Region communities and in communities beyond the geographic boundaries of the nine Bay Area counties.

In terms of commute patterns, suburban employment centers will attract most of their workforce from nearby suburbs and outlying residential communities. By contrast, San Francisco will draw more heavily on its own population and those people living in closer-in suburbs served by BART and in the older communities ringing the Bay. Because of the relatively higher rate of employment growth and job opportunities expected in Bay Area business centers outside San Francisco compared to the growth rate expected for the City, the percentage of the region's employed residents working in San Francisco is expected to decline over time.

Comment

We generally favor mixed-use, infill development projects, provided they do not lead to congestion, because such projects can reduce dependence on the automobile. We also favor development at locations and densities that support transit use. In these respects, the proposed Mission Bay project is consistent with policies in the Bay Area Air Quality Plan. As noted in the DEIR, however, Mission Bay is inconsistent with the Air Quality Plan in that development proposed for the project area is much more intensive than was assumed in ABAG growth projections. This is a problem primarily with respect to employment projections. Residential growth in excess of ABAG projections actually may be desirable in this case, since it would result in additional units of much-needed housing in San Francisco. ABAG's Projections '87 emphasizes the need for additional housing - beyond projected growth - in San Francisco to meet projected demand.

With respect to traffic and air quality, we believe that Alternative B is preferable to Alternatives A and N. Alternative B would result in the most new housing, the most affordable housing, and the least employment growth of any of the alternatives, and would thus have the most favorable impact on the jobs/housing balance. Maintaining a balance between jobs and housing

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is crucial to minimizing long-distance commuting. (Miltin Feldstein, Bay Area Air Quality Management District)

Response

The commenter is referred to Volume Two, VI.C. Housing and Population, pp. VI.C.92-VI.C.94, and VI.O. Growth Inducement, pp. VI.O.5-VI.O.6, for comparison of the Alternatives with respect to the distribution of employment and population in the region. While Alternative B would result in relatively less San Francisco employment contributing to housing demand or population growth elsewhere in the region, the overall regional scenario with Alternative B would show relatively more employment growth with associated housing demand and public service and infrastructure requirements dispersed to other locations in the region, compared to the regional scenarios for the other Alternatives.

Comment

If Prop M works, the job training, and San Franciscan residents get jobs at Mission Bay, they will also want to improve their living conditions.

So, what will happen? Where will the extra 10,000 to 12,000 workers find housing? First, they will bid up every apartment rent in San Francisco. The EIR should tell us how much pressure on rents in San Francisco will be produced by Mission Bay -- rents that will have to be paid by people who never even go near Mission Bay.

The EIR should tell us how much the cost of home ownership will be increased in San Francisco. What will Mission Bay's housing deficit cast the rest of San Francisco month after month, year after year? It might be interesting if it equalled the \$76 million that the developer is going to gain. And the EIR should tell us what it's going to cost San Franciscans.

The housing demand created by Alternative A will follow the traditional San Francisco pattern -- displacement. Like an elaborate game of falling dominoes, first the pressure on the close-in neighborhoods of the Mission and Potrero Hill, displacing lower income renters and elderly homeowners in a sort of bidding war. They in turn will push out others further down the economic ladder until pretty soon, and not too far from Mission Bay, people will be homeless because of decisions made in this room.

The EIR should tell us how many moves to smaller quarters will be caused by Mission Bay, how much doubling up of families will be caused, how many illegal units will be required, how many people will move from independent living to depending on social services and ultimately, at the end of this long line of dominoes, how many people will be forced out of the housing market into camp grounds in state parks or living in automobiles at Ocean Beach.

It's not dominoes. We are talking about people, and the EIR should address these people and the subsidy they will pay to make Mission Bay a highly profitable office development. (Ira Kurlander, San Francisco Tomorrow)

Response

There are several answers to the commenter's request for information quantifying how much housing prices and rents in the City will increase, how much more San Franciscans will have to pay, and how housing conditions will change for San Francisco residents, since not all of the workforce in Mission Bay would be accommodated in Project Area housing. Preceding Responses have addressed the question of the jobs/housing balance for the Project Area and the determination of where workers are likely to live (see pp. XV.C.5-XV.C.8 and p. XV.C.20). Given San Francisco's role as the center city of the region, current zoning, the existing density of development, and the City's relatively limited land supply, it is not reasonable to expect that all workers could or would choose to live in the City. Nevertheless, because housing development in the City is limited relative to demand, there are housing market impacts of continued job growth. The types of impacts are described in the EIR. It is not possible to provide with any degree of accuracy the level of quantitative analysis requested by the commenter (e.g., increases in housing rents/prices). More importantly, numbers are not the appropriate measure here, especially since many factors besides Mission Bay and cumulative employment growth (e.g., interest rates, tax policies, zoning policy, other demand factors) will have more influence on the housing market indicators cited by the commenter. The appropriate and more meaningful perspective for interpreting the EIR is the comparison of Mission Bay Alternatives. Using housing market criteria only, it is possible to choose one Alternative over another based on the EIR's qualitative assessment of whether conditions would be better or worse.

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The conclusions from the comparison of the EIR Alternatives are in Volume Two on pp. VI.C.84-VI.C.86. The assumptions underlying the assessment of effects on the housing market are identified on pp. VI.C.37-VI.C.38. The description of expected future housing market conditions is on pp. VI.C.81-VI.C.84.

The same logic underlies the response to the commenter's conclusion that development of Mission Bay would be directly responsible for gentrification in nearby residential neighborhoods. On the contrary, the EIR states on p. VI.C.85 of Volume Two: "Housing in Mission Bay would relieve some of the demand pressures that lead to gentrification in existing neighborhoods and the associated implications for long-time residents of those neighborhoods."

Gentrification, to some extent attributable to preferences for older housing stock in established neighborhoods, is also partly a result of the limited new affordable housing supply relative to demand. Land economics, construction costs, development costs, City policy regarding new residential development, demographic trends, and a healthy economy supporting demand for housing all bear some of the responsibility for gentrification in San Francisco.

The discussion of nearby residential neighborhoods in the EIR (see Volume Two, pp. VI.C.86-VI.C.92) points out the offsetting impacts that make definite predictions about the effects of Mission Bay on nearby neighborhoods difficult. For example, on the one hand, additions of the City's housing supply with Mission Bay Alternatives A and B could relieve demand pressures leading to gentrification in nearby residential areas. On the other hand, the upgrading of that sector of the City represented by new Mission Bay development and the neighborhood amenities provided in Mission Bay could increase the appeal of older neighborhoods nearby.

Comment

One of the problems here is that they have done a great job dealing with the transportation relationship.... [B]ut they have never really considered what will happen to housing prices if the EIR and if this plan goes through, and the future goes through, as they project it. I think they should have done something about that. It's hard to do, but they should have done it....

The Mission Bay Draft EIR has serious deficiencies in the way it predicts the future relationship between housing and jobs....

Chart II.36 in Vol. I, [p.]II.55 on traffic congestion shows that even with greater use of transit and ride sharing, periods of delay will double or triple on each route in each direction. In other words more people can expect to spend more time per working day commuting. The EIR is deficient in that it does not make any prediction of the future cost of housing if their predictions come true. If an increase in hours spent commuting is relevant to the development of a large project, and it is, then an increase in hours spent to pay the rent is just as relevant. Will the cost of housing (represented as hours of work) increase from three hours per typical working day to six hours? The EIR should include a cost of housing chart similar to the one on traffic congestion, which should show the number of hours per day that low, middle, and upper income people work per work day to pay for housing at present, and how many hours of work are predicted for the year 2000 and 2020. The Technical Analysis and Appendix should include sections to explain how the predictions were arrived at. (Howard Strassner, Coalition for San Francisco Neighborhoods)

Response

The Mission Bay EIR is not deficient in describing and analyzing the future relationship between jobs and housing and resultant housing market conditions. The Setting, Future Context and Impact discussions in VI.C. Housing and Population, in Volume Two, set forth the underlying trends and describe the effects of Mission Bay and other cumulative growth on the expected future housing market scenario. The commenter is referred to the following pages in Volume Two:

- Pages VI.C.1-VI.C.6, supplemented by pp. XIV.C.1-XIV.C.2 of Volume Three, discuss existing housing market conditions in San Francisco and the Bay Area region, highlighting the regionwide problem of housing affordability. This description of the many factors influencing the housing market and housing costs is important background for the subsequent presentation of the expected future housing market scenario.
- Page VI.C.38 (top) identifies the underlying assumptions as to housing market variables beyond local influence that will contribute to future housing market conditions in San Francisco and the rest of the region. The text also introduces the perspective of the subsequent impact analysis.

XV. Summary of Comments and Responses

C. Housing and Population

- Pages VI.C.81-VI.C.86 describe the implications of cumulative growth for San Francisco's future housing market scenario. The Mission Bay Alternatives were analyzed within that context and their different effects are compared here.
- Pages VI.C.92-VI.C.97 describe the implications for the regional housing market of Mission Bay development and the cumulative growth of which it would be part.

The pages noted above present: 1) current and expected future housing market conditions in San Francisco and the region, 2) the reasons for those conditions, 3) what those conditions mean for households, and 4) the role of Mission Bay development and San Francisco job growth in the future housing market.

The Mission Bay EIR does not quantify future housing costs. As described in the EIR, there are many other factors (interest rates, tax policies, the availability of government subsidies, etc.) besides the relationship between housing and job growth that will determine future housing costs. Developing a quantitative model that predicted all the relevant factors with a reasonable degree of accuracy is beyond the scope of an EIR. More importantly, those quantitative data are not needed to evaluate and compare the Alternatives or to analyze cumulative growth - the subjects of the Mission Bay EIR. The relevant quantitative analysis and forecasting have been done. The numbers that describe the expected future scenarios for housing, population, employed residents, jobs, and where people live and work are presented in extensive tables throughout VI.C. Housing and Population, in Volume Two, and Appendix C, in Volume Three. These numbers illustrate the jobs/housing relationship that affects the housing market as described qualitatively in the text.

Thinking about producing a comparable exercise for transportation analysis to what the commenter requests for housing highlights the difficulty of providing that kind of illustration. To quantify increases in the costs of commuting associated with job growth and increased congestion (instead of quantifying the costs of housing) would require assumptions about future gasoline prices, future transit fares, future automobile prices and technology, future bridge tolls, and other possible exactions. The answer derived from such predictions would say more about those other factors than it would about the implications of job growth for commuting costs.

NOTES - Housing and Population

- /1/ The Mission Bay Plan, Proposal for Citizen Review, p. 5-15.

STAFF-INITIATED TEXT CHANGES FOR HOUSING AND POPULATION

The following revisions are made to the Housing and Population subchapter in Volume Two and Appendix C in Volume Three of the Mission Bay Draft EIR.

Volume Two - VI.C. Housing and Population

In the last paragraph on p. VI.C.70, the first sentence after "Alternative A," which continues on p. VI.C.74, is changed to:

- **For office development in Alternative A, the City's OAHPP would require either payment of an in-lieu fee of \$23.70 million for production of housing or construction of 1,583 housing units, 981 to be affordable to households of moderate or low income.**

In Table VI.C.17, on p. VI.C.71, the numbers for "Payment Required (millions) /c/," under "Compliance Through Payment of In-Lieu Fee," are changed in the columns "Alternative A," "Alternative B" and Alternative N." In the "Alternative A" column, this number is changed to:

- **\$23.70**

In the "Alternative B" column, it is changed to:

- **\$5.78**

In the "Alternative N" column, it is changed to:

- **\$8.67**

The second sentence of note /a/ on this table is amended to state:

- **If some or all of that space was demolished for an office development project and/or was credited against new space developed, the net addition of office space in the Project Area would be less than shown and OAHPP requirements would be less (a credit of 32,000 square feet would reduce the requirements by 12 units or \$184,960).**

XV. Summary of Comments and Responses
C. Housing and Population

Note /c/ on Table VI.C.17 is also changed, as follows:

- /c/ **The fee in lieu of developing housing was \$5.78 per net additional gross square foot of office space as of January 1989.**

On p. VI.C.75, the first sentence after "Alternative B," in the second complete paragraph on that page, is revised to state:

- For office development in Alternative B, the City's OAHPP would require either payment of an in-lieu fee of \$5.78 million or construction of 386 housing units, 239 to be affordable to households of moderate or low income.

The last sentence on p. VI.C.76, which continues on p. VI.C.77, is revised to state:

- For office development in Alternative N, the City's OAHPP would require either payment of an in-lieu fee of \$8.67 million for production of housing or construction of 579 housing units, 359 to be affordable to households of moderate or low income./33/

In Table VI.C.20, on p. VI.C.78, the numbers for "Payment Required (Millions) /c/," under "Compliance Through Payment of In-Lieu Fee," are changed in the columns "Alternative A," "Alternative B" and "Alternative N." In the "Alternative A" column, this number is changed to:

- **\$8.32**

In the "Alternative B" column, it is changed to:

- **\$5.78**

In the "Alternative N" column, it is changed to:

- **\$5.78**

Note /c/ on this table is amended to state:

- /c/ **The fee in lieu of developing housing was \$5.78 per net additional gross square foot of office space as of January 1989.**

Volume Three - XIV.C. Housing and Population

The first sentence in the second paragraph on p. XIV.C.35 is revised in the following way. The word "all" in this sentence is underlined in the EIR for emphasis; the underline beneath this word in the following change therefore does not indicate a revision.

- The household income distributions are derived from survey data for all households with workers employed in the Downtown & Vicinity and living in the City, including those in new housing and those in older units.



D. COMMUNITY SERVICES AND INFRASTRUCTURE

OPEN SPACE DEMANDS AND REQUIREMENTS

Comment

The discussion of Open Space, page VI.D.13. [and following pages], omits absolutely critical information regarding the known open space deficiencies of surrounding areas, particularly the South of Market. The long-standing Open Space Advisory Committee analysis and recommendations of these needs is not described. The South of Market is identified as generally deficient, and in particular lacks a large open space suitable for a playing field, such as soccer, baseball, etc., very important to inner city youth. Because Mission Bay may offer a potential site which might remedy this need, the northwest corner at Seventh and Townsend Sts., a thorough discussion is pivotal for this DEIR. There are also nearby possible off-site locations in the South of Market for a playing field which could be linked to Mission Bay project development, and [serve] its population as well as existing neighborhood needs, notably the large undeveloped parcel on AB 3781 at Ninth and Brannan Sts. The DEIR should assess such potential nearby off-site locations, as their availability (or lack thereof) might have a material impact on the final land use and open space plan approved for Mission Bay....

The DEIR briefly discusses current identified South of Market open space deficiencies in this section, rather than the Setting section where it should be. It describes the general South of Market Plan recommendation for new open space facilities, but does not note, as it must to be accurate, that there are no current implementation plans regarding development of such open space, particularly a large playing field. Hence the Mission Bay EIR cannot presume such South of Market facilities will be developed. The discussion suggests Mission Bay's open space would be accessible and useful for South of Market needs. However, no DEIR alternative locates an "active recreation" open space area of the minimum 2 acre size identified in the Appendix as necessary for baseball/soccer use north of Mission Creek within reasonable walking distance of South of Market residential areas, or even more so, Tenderloin residential areas. Hence the DEIR's conclusion of the utility of Mission Bay open spaces for that need of those adjacent populations is unwarranted, factually wrong, and misleading, and must be deleted. In

fact, the opposite is true and should be stated clearly: none of the Mission Bay alternatives proposes any significant relief to the known open space deficiencies for active recreation needs of the South of Market/Tenderloin population. This is a major failure of the Mission Bay plan, and a major public policy question in the plan's approval process. . . .

A further mitigation is needed for project open space needs for active recreation (playing fields)... of at least 2 acres suitable for field sports could be acquired off-site by the City in the South of Market area. . . . This could be done well before the year 2000. This would benefit the project further by reducing the required open space land allocation somewhat, permitting allocation for other uses that reduces overall project density. (John Elberling, San Franciscans for Reasonable Growth)

Response

On p. VI.D.11 of Volume Two, the EIR acknowledges that the area within and surrounding the Mission Bay Project Area is poorly served by open space and recreation facilities; on p. VI.D.70 of Volume Two, the EIR states that the Project Area as well as portions of the Nearby Areas, including the South of Market area cited by the commenter, are designated "areas not served by public open space," and are recognized high-need areas. The types and locations of existing open space within 1,500 feet of the Project Area are discussed in Volume Two on p. VI.D.11 and pp. VI.D.13-VI.D.15, and shown in Figure VI.D.3 on p. VI.D.12.

The description of existing recreation and open space facilities, and the identified deficiencies are not intended to be the basis for assessing open space requirements and needs outside of the Project Area; rather, they provide a context for the Mission Bay analysis. The EIR assessment is conservative and does not presume implementation of open space recommendations of the South of Market Plan or use of other sites outside the Project Area for new open space and recreational uses.

The EIR states that Mission Bay open space could serve the South of Market and Showplace Square Nearby Areas and describes possible access between these open space areas and the Nearby Areas (see Volume Two, pp. VI.D.70-VI.D.71, VI.D.73, VI.D.75, VI.D.79, VI.D.81-VI.D.83, and VI.D.85). In Alternative A, this would include access to OS-1 and OS-3 (shown in Figure VI.D.6 on p. VI.D.62 of Volume Two),

which are designated active recreation areas. Open space within Mission Bay would be within 1,500 feet of about 30% of the South of Market area.

Alternative A identifies a one-acre area (OS-7) north of the China Basin Channel (see Figure VI.D.6) and portions of a 10.8-acre area (OS-3) on the south side of the channel for active recreation. Much of OS-1 near China Basin Channel is also designated for active sports. Those areas are located in the northern portion of the Project Area and, consequently, are the open space areas within Mission Bay that are the most accessible to South of Market. In Alternative B, the 7.3-acre open space (OS-6) southeast of the China Basin Channel between Third and Fourth Streets that is identified for active recreation would be accessible to the eastern portion of South of Market (see Figure VI.D.7 on p. VI.D.63 of Volume Two).

The EIR discussion of potential Project Area open space serving needs of Nearby Areas is based only on the geographic proximity and accessibility of that open space to residents or employees in Nearby Areas. The EIR does not identify Mission Bay Project Area open space as potentially serving residents of the Tenderloin area, as that North of Market area is beyond the quarter-mile radius for neighborhood park service areas given in the Recreation and Open Space Element of the San Francisco Master Plan. On p. VI.D.70 of Volume Two, the EIR states that Mission Bay open space accessible to Nearby Areas "would help serve high need areas"; the analysis does not conclude that these needs would be fully met by Project Area open space.

The following text is added at the end of both the second full paragraph on p. VI.D.70 and first partial paragraph on p. VI.D.82 of Volume Two:

- **Mission Bay Project Area open space would not, by itself, fully serve the identified open space needs of South of Market and Showplace Square Nearby Areas.**

Recreation and parks mitigation measures for Mission Bay impacts are identified in Volume Two on pp. VI.D.118-VI.D.119. Those measures include provisions for additional open space, active recreation and recreation centers in the Project Area. Those measures would also increase the amount of open space available to Nearby Areas.

Comment

Open Space. It is my opinion that the open space

issues are principally how much of what quality open space will be created: where and when. It is apparent that only Alternative B has anywhere near enough open space, as well as preserving the wetland areas. Alternative A and N are grossly deficient in high quality open space. Moreover the comparisons of ratios of open space area per person or per acre of developed Project or housing within the Project with city neighborhoods like the Richmond or Sunset is deceptive. These neighborhoods contain many single family houses with rear yards and other private open space. The density of the housing is much lower than that planned under any alternative for the Project. (Richard H. Moss, Potrero Boosters and Merchants Association)

Response

On p. VI.D.79 of Volume Two, the EIR compares existing open space / population ratios in the Marina / Cow Hollow / Pacific Heights and Potrero Hill neighborhoods to ratios in Mission Bay Alternatives. Those areas were selected for comparison because they include mixtures of multiple-family and single-family housing, or are near (in the case of Potrero Hill) Mission Bay. The Marina / Cow Hollow / Pacific Heights neighborhoods and Potrero Hill have about 3.2 and 2.1 acres, respectively, per 1,000 population. The Richmond / Sunset area, including Golden Gate Park, has a ratio of 9.6 acres of open space per 1,000 population. This compares to about three acres for Mission Bay Alternative A and about 4.4 acres for Alternative B.

The Richmond / Sunset neighborhood ratio was not cited in the EIR, because the proximity of Golden Gate Park to those neighborhoods makes them atypical. As noted by the commenter, the Richmond and Sunset neighborhoods are predominately single-family areas; that factor also makes a comparison to Mission Bay inappropriate. As noted in the EIR, Mission Bay open space ratios do not include publicly accessible areas associated with other uses, which would to some extent serve the function of private open space in single-family neighborhoods.

Comments

The open space for humans is totally inadequate in both Alternatives A and B. According to the "Recreation and Open Space Element" of the San Francisco Master Plan:

The City, State and Federal property permanently dedicated to open space uses total approximately 4,090 acres, or 5.5 acres per 1,000 San Francisco residents. This is about half the standard of National Park and Recreation Association (NPRA), which calls for 10 acres of open space per 1,000 population in cities. Given the City's existing development patterns, high population density, and small land mass (28,918 acres), the NPRA standard will not be possible to achieve within the City limits. Nevertheless, to the extent it reasonably can, the City should increase the [per] capita supply of public open space within the City.

There is no reason not to apply the NPRA standard to Mission Bay, since the high density and existing development patterns do not apply here. Even if Mission Bay is provided with 10 acres per thousand residents, the City as a whole would still be a long way from achieving this standard. . . .

What is particularly alarming is that Alternatives A and B are supposed to bracket the conditions to be found in the project which is finally approved. This would mean that it has already been decided that Mission Bay will be a neighborhood grossly deficient in open space. Who made that decision?

It is ridiculous to propose mitigation for inadequate open space, since mitigation is supposed to be for unavoidable impacts. An open space deficiency is not unavoidable, since we have every opportunity to come up with a wise plan. At least one EIR alternative should meet the NPRA standards, and no alternative should violate the City's minimal goal of increasing the per capita supply of open space.

Furthermore, on the following page [VI.D.] (69) of the Report, a round of circular reasoning begins, saying that the EIR analysis assumes that "large urban park needs" would be met outside the Project Area. Where, may we ask? The report states that Mission Bay Residents would also use district space outside the Project area. . . . Is the EIR saying that Mission Bay's initially inadequate open space is to serve the open space needs of [Nearby Area] neighbors around Mission Bay whose space is even more inadequate or are the open space needs of Mission Bay to be met by the already acknowledged inadequate space of its neighbors?

Since Mission Bay is an area with an almost clean slate, then it should be developed with sufficient open space to meet the national standards and city standards for open space.

If, as in Vol. 2, [p.] VI.D.85, the EIR is going to continue to state that the residents in the surrounding High Need area will use the open space provided in Mission Bay, which we do believe will be the case, then this factor should be factored in to the demand figures, resulting in the need for even more open space acreage in Mission Bay.

Vol. 2 [p.] VI.D.118 provides that mitigation for the stingy open space is to provide for sufficient open space in the final plan and not create another instant high need neighborhood. If this is the case, then it is back to the drafting boards. In other words, the only way to mitigate the open space deficiency in Alternative A is to come up with a whole new plan. . . .

If the EIR is correct, and the surrounding High Need neighborhoods avail themselves of Mission Bay opportunities, then their needs will need to be factored in to the demand figure. . . .

Citywide System, Policy 7. Acquiring additional open space while creating an even greater demand for open space is counterproductive to Master Plan implementation. Instead of Policy 7, this table [Table VI.D.19] should compare the EIR alternatives to various aspects of Policy 1: "Provide an adequate total quantity and equitable distribution of public open spaces throughout the City."

Increase the per capita supply . . . Both A and B reduce the City's per capita supply.

Improve the distribution of open space . . . Since the South of Market and the rest of the eastern side of the city are irreparably deficient in open space, both A and B would exacerbate the lopsidedness of the city's open space system. (Toby Levine, Mission Creek Conservancy)

The EIR is not quite so clear when it comes to the relationship of these Alternatives to [open space policies in] the City's own Master Plan. The EIR does acknowledge that the Alternatives fall short of the goals set in the Master Plan, and it does mention, at least in one place in the EIR, that our Master Plan calls for a per capita increase in open space, which the Alternatives fall far, far short of.

But in one of [the] major tables, VI[D.]19, which is supposed to present a comparison of all three Alternatives to all of the Master Plan policies that are relevant, there is no mention there of the policy calling for a per capita increase. Instead, there is a mention only of acquiring additional open space. And then as you look across the

table, it makes it sound as if, because the Alternatives do add some open space acreage, that they're somehow helping the City in terms of its open space needs. But this is very far from the truth.

The reason we want open space in Mission Bay is to serve the needs of people. So it's only a measurement of open space per capita, such as the standard that is used by the National Recreation and Park Association, of how many acres of open space per thousand people. That is the only meaningful measurement of open space, not just sheer acreage.

So, in fact, Mission Bay does not add to the City's ability to meet the open space needs of its residents. In all three Alternatives, Mission Bay would actually drag down the City's overall open space ratio. It would reduce the City's ability to meet the open space needs of our residents and workers. And Mission Bay would place an additional burden on our existing parks and open space and it would increase the risk of further deterioration and of more use conflicts in the existing parks.

Another Master Plan policy that is not mentioned in Table [VI.D.J 19] is equitable distribution of open space. Because the entire eastern side of [the] City, especially Chinatown, the Tenderloin, and the South of Market, is already very much park deprived, to provide anything less than five and a half acres per thousand people at Mission Bay will exacerbate the open space distribution problem as well as the overall supply problem.

So, both Alternatives A and B violate the City's Master Plan. The EIR should address the question of how the Mission Bay project will impact the City's ability to ever implement our Master Plan, both with and without the passage of Proposition E this November.

And since Mission Bay presents one of the last opportunities to provide any significant open space in that whole eastern part of town, might we not be precluding the possibility of ever implementing the Open Space Element if we go ahead and build a deficient open space system at Mission Bay?

Of course, there is always the option of waiting until we built Mission Bay, then finding that it's a high need neighborhood, then using our power of eminent domain to buy up some buildings and tear them down to build some parks.

But I would think we would learn from experience that this is not the ideal way to meet open space needs.

The EIR suggests that maybe Mission Bay doesn't have to provide the full five and a half acres per thousand that the City currently has because, quote, the residents' large urban park needs would be met outside the Project Area.

Well, they don't say where. Are people supposed to all get in their cars and drive across town to Golden Gate Park, which is already overstressed? Which parks are they talking about? What will be the impact on the increased usage on those existing parks?

There is kind of a funny circular argument that goes on in this document where it acknowledges how park deprived the South of Market is and suggests that maybe some of the needs of South of Market residents can be met in Mission Bay. But I haven't been able to find where that is factored into the estimates of demand in the Mission Bay project.

And then we are also saying the Mission Bay residents can meet their needs by going outside of Mission Bay to enjoy open space. I mean, it's fine to have both populations enjoying open space in the different areas. But that doesn't mean that their overall needs are being adequately served by the fact that they can go back and forth.

. . . [M]any of us are frustrated by the fact that we are analyzing a report that is supposed to lay out the impacts of a project when we don't really have a plan or a project in front [of] us. And I tried to understand this business of the Alternatives bracketing the conditions that might occur in the eventual plan. But if that is what we are talking about with open space, it sounds like we have already made up our minds that our final plan is going to fall somewhere between inadequate and grossly inadequate.

I don't know how that decision was made, but that is the only conclusion I can come to if the two Alternatives that are supposed to bracket the conditions in the final plan are admittedly inadequate in themselves.

I hope we haven't already made such a decision. I think we really ought to have an alternative that at least conforms to the City's own Master Plan. And it should not be an alternative that is one of those cartoons that is set up to make us think that adequate open space is infeasible. It should be an alternative that provides a balance of other uses so that we can see that it really can work.

We hear over and over talk about how we are all in agreement that we want Mission Bay to be a new neighborhood. It's very important that we not make it a high need neighborhood. (Ruth Gravanis)

The EIR must illuminate the respects in which the alternatives are inconsistent with the various elements of the Master Plan, so that necessary changes in the project or Master Plan amendments can be identified, and their impacts evaluated. One inconsistency, noted above, is its failure to provide adequate open space. Objective 2, Policy 1 of the City's Recreation and Open Space Element calls for increasing the per capita amount of open space beyond 5.5 acres per thousand residents. Neither alternative A nor alternative B meets this standard. Thus either the alternatives must be modified, or the Open Space Element must be. Either solution has consequences, but the EIR ignored them. . . . For that matter, approving a project inconsistent with the Recreation and Open Space Element has consequences, inasmuch as it would perpetuate and aggravate an already severe shortage of open space in the Mission Bay and surrounding areas. (Zach Cowan, Mission Creek Conservancy, Sierra Club, San Francisco Tomorrow)

Response

The EIR discussion of potential use of Mission Bay Project Area open space by residents and employees in Nearby Areas, as noted on pp. VI.D.70, VI.D.73, VI.D.75, VI.D.79-VI.D.81, VI.D.83, and VI.D.85 of Volume Two, is based on Mission Bay open space that would be within a 1,500-foot radius of South of Market or Showplace Square Nearby Areas and would thus be considered within a neighborhood service area, as defined in the Recreation and Open Space Element (p. I.3.10 of the Element).

In the EIR, p. VI.D.70 relates open space proposed in Mission Bay with each Alternative to National Recreation and Park Association (NRPA) standards for neighborhood- and district-serving open space, and states, "The analysis assumes that large urban park needs would be met outside the Project Area. In practice, Mission Bay residents would also use district open space outside the Project Area, and Project Area open space would serve needs of Nearby Areas. . . ."

As cited on p. VI.D.68 of Volume Two, district-serving open space is defined by the NRPA as "serving a population of 10,000 to 50,000, within a one-half to three-mile radius," and large urban park is defined as large enough "to serve a population of 50,000 within a half-hour driving time. . . ." Since Mission Bay's population in the three Alternatives would range from 36 to 18,700, it is reasonable to assume that all or some of these district and citywide open

space needs of Mission Bay residents would be met outside the Project Area (and South of Market), and would generally be separate from neighborhood-level open space demand. In San Francisco, large urban parks within half-hour driving time of Mission Bay include Golden Gate Park, the Golden Gate National Recreation Area, and McLaren Park. Outside San Francisco, San Bruno Mountain, the Golden Gate National Recreation Area in Marin County and Berkeley's Tilden Park are within that approximate driving time. In addition, the Presidio offers regional open space opportunities, although it is not permanently dedicated to that use at this time.

The EIR evaluates open space demand from Mission Bay residents and employees. It is not possible to quantify with any degree of certainty the extent to which persons outside the Project Area would use Mission Bay open space, nor the extent to which Mission Bay residents would use open space outside the Project Area, such as Golden Gate Park. For purposes of comparison, however, if user-visits to Golden Gate Park were assumed to be directly proportional to population, the population under Alternative A or B would be about 2% of San Francisco's population in 2020, and thus would represent a potential 2% increase in use of Golden Gate Park. This is probably conservative, as patronage of Golden Gate Park also includes many regional and out-of-area visitors. Mission Bay usage would then be a lower fraction of total usage. Actual effects on Golden Gate Park in 2000 and 2020 would also depend on facilities available in the future in that park, and potential changes in uses of other open space in San Francisco, such as the Presidio or McLaren Park.

It should be noted that Recreation and Open Space Element policies call for an "adequate total quantity and equitable distribution of public open space throughout the City" (Recreation and Open Space Element, p. I.3.7). Quantitative adequacy is discussed in the Element in terms of NRPA open space / population ratios, as discussed in Volume Two on pp. VI.D.68-VI.D.70, and earlier in this Response. Several commenters suggested that the EIR is inadequate because Alternatives A and B would not effectively increase the per capita supply of open space in the City above 5.5 acres per 1,000 population currently available, as described in the Element. The Comments state that the Alternatives must result in attainment of that objective in order to be consistent with the Master Plan. In fact, Objective 2, Policy 1 of the Element does not establish an absolute requirement. After acknowledging that due to existing development patterns, high population density, and small land area, the City will not be able to achieve the NRPA standard within City limits, Policy 1 provides: "Nevertheless, to the

extent it reasonably can, the City should increase the per capita supply of public open space within the City." Thus, Alternatives A and B do not "violate" the City's Recreation and Open Space Element.

Variant 3, on pp. VII.19-VII.24 of Volume Two, Chapter VII, Variations on Alternatives, is a scenario that would provide about 4.8 acres of parkland and wetland open space per 1,000 population. If open space associated with other uses, and China Basin Channel (which would be bordered by open space, and thus could be considered part of "visual" open space) were counted, Variant 3 would have about six acres of open space per 1,000 population, thus increasing the citywide per capita supply. Variant 3 is the same as Alternative B in all respects except that it would provide a reduction in housing densities.

As a comparison, Alternative A (in 2020) would have 43.3 acres of parkland, a ratio of three acres per 1,000 population; counting open space associated with other uses, and the channel, total open space would be 71.3 acres, a ratio of 4.95 acres per 1,000 population. Alternative B (in 2020) would have 82.1 acres of parkland, a ratio of 4.4 acres per 1,000 population; counting open space associated with other uses, and the channel, total open space would be 102.4 acres, a ratio of 5.5 acres per 1,000 population.

In assessing the relationship between the EIR Alternatives and the NRPA standards, the EIR presents a conservative analysis by not counting the 12 acres of open space represented by China Basin Channel (the portion between the Fourth Street Bridge and Seventh Street which would be surrounded by park in Alternatives A and B), or the publicly accessible open space that would be provided by other uses. In a comparison of the open space per capita ratios among the Alternatives and the citywide average, it is appropriate to count those areas, because similar types of open space are included in the citywide average (for example, the water use of Lake Merced). If that additional open space (the channel and open space associated with other uses) were counted, the open space per capita ratios with Alternatives A and B would be closer to the existing citywide ratio than shown in the Draft EIR.

The following is added to the end of footnote /d/ in Table VI.D.18, on p. VI.D.81 of Volume Two:

- Were those other types of open space to be counted, Alternatives A and B would be closer to the existing citywide ratio of 5.5 acres per thousand than shown on p. VI.D.79.

Distribution in relation to neighborhood service areas is illustrated in Map 2, Public Open Space Service Area, p. I.3.11 of the Element, and shows how areas of the South of Market, Mission Bay Project Area and Central Waterfront are not well served by open space (i.e., are more than a quarter- to half-mile from existing open space). In Mission Bay Alternatives A and B, new open space would improve the distribution of neighborhood-serving open space in the eastern part of the City.

To clarify the discussion of open space needs that would be served within and outside of the Project Area, the following is added to the first full paragraph on p. VI.D.70 of Volume Two, after the third sentence:

- This assumption is reasonable because Mission Bay, with a population ranging from about 14,400 to 18,700 for Alternatives A and B, would not contain a large enough population to provide district-wide and citywide open space fully within the Project Area. As noted above, district open space serves populations of from 10,000 to 50,000, and citywide space, 50,000 or more.

To clarify the relationship of the Mission Bay Alternatives to Citywide System, Policy 1, regarding adequate quantity and distribution of open space, a new left-to-right row, 7a, is added to Volume Two, Table VI.D.19, after "7. Neighborhood Policy 7" on p. VI.D.89:

- 7a. **Citywide System, Policy 1** - Provide an adequate quantity and equitable distribution of open spaces throughout the City.

Alternative A - By the year 2000, open space would exceed project demand based on NRPA standards by 4.8 acres. At build-out, an additional 29 acres (five acres/1,000 population) would be needed to meet project demand based on NRPA standards. The Alternative, with about three acres/1,000 population, at build-out would not increase the per capita supply of open space in the City as a whole, currently a ratio of about 5.5 acres/1,000 population. Provision of open space (43 acres) in the Project Area would increase open space availability in eastern portions of the City.

Alternative B - By the year 2000, open space provided by the project would exceed demand by 3.6 acres, based on NRPA standards. At build-out, about 11 more acres (five acres/1,000 population) would be needed to meet project demand based on NRPA standards. The Alternative, with

about 4.4 acres/1,000 population at build-out, would not increase the per capita supply of open space in the City as a whole, currently about a ratio of 5.5 acres/1,000 population. Provision of open space (82.1 acres) in the Project Area would increase open space availability in eastern portions of the City.

Alternative N - By the year 2000 and at build-out, open space in the Project Area would exceed demand. The additional 5.2 acres of open space at build-out would contribute minimally to provision of new open space in eastern portions of the City.

See XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26, for a discussion of Variant 11 (EIR Hearing Proposal), which would include a higher open space / population ratio than Alternative A or B would.

Comments

Open space proposed under all alternatives would meet the demand created by Mission Bay employees, but would fall short of the demand created by residents in Alternatives A and B.... Based on a National Recreation and Park standard of five acres of open space per 1,000 residents, Alternative A would fall short of the 72 acre standard by 29 acres (43 acres are proposed); and Alternative B would fall short of the standard of 93 acres by 11 acres (82 acres are proposed)....

By the year 2020 when the project is fully constructed, the resident population is expected to be 14,000 under Alternative A and 19,000 under Alternative B.

As the DEIR points out, existing San Francisco open space, including city, state and federal parklands, falls short of the national standard of 10 acres per 1,000 population. However, the Recreation and Open Space Element of the Master Plan notes the national standard and states that the per capita supply of open space should be increased to the extent possible. This objective is particularly relevant to the southeast side of San Francisco where open space is limited and growth is projected.

Clearly, meeting a numerical national standard is not the issue, but rather, serves as an indicator of the importance of maximizing the opportunities for open space wherever possible. Since all alternatives in the Mission Bay Plan fall short of the standard, the city must strive to maximize the usefulness, the public access to, and the diversity of recreational opportunities for the limited

resources available in each of the development variants. As general guidelines, open space, and specifically parklands, should:

- *Be clearly visible to the public and signed as public parklands. Parks should be visible from a city street. Parklands which abut private property are perceived of as private space not open to the public.*
- *Include open lawn areas and seating for passive recreational experiences (scenic vistas, sunbathing, reading) and ball diamonds and paved surfaces for active sports as well as pathways for pedestrians and routes for cyclists.*
- *Provide safety features such as night lighting and security fences.*
- *Be designed for ease of maintenance as well as for appearance.*
- *Maximize access to sunlight for all open space with Proposition K as a minimum standard.*

The EIR should address open space for Mission Bay in the context of the above points, including the relationship of recreational opportunities offered by this waterfront area to surrounding land uses (South of Market area, Downtown, Yerba Buena) and neighborhoods. The EIR should also address the relationship of recreational opportunities in the Mission Bay area to other San Francisco and Bay Area waterfront recreation resources (Candlestick Point, Marina Green, Crissy Field) and show how the alternatives proposed complement existing resources. (Mary E. Burns, San Francisco Recreation and Park Department)

In evaluating the ability of the alternatives to meet the public's open space needs, the EIR should consider some of the results of the State Department of Parks and Recreation's 1987 survey:

- *Highly developed parks and recreation areas are visited the most often. However, nature-oriented parks or reserves are the preferred type of outdoor recreation areas.*
- *Californians strongly agree that protection of the natural environment is important for outdoor recreation, closely followed by preservation of natural areas for use by future generations.*
- *In light of tight budgets, almost three-fourths of Californians believed spending should be*

increased for the protection and management of natural and cultural resources. Increasing the protection of scenery and the natural environment was strongly supported by three-fourths of the respondents.

- When park and recreation issues are involved, Californians are undeniably more similar than different. Regardless of income, education, geographic location or gender, Californians tend to be much more alike in their opinions and attitudes on outdoor activities than different. (See: Public Opinions and Attitudes on Outdoor Recreation in California - 1987, State Resources Agency, An Element of the California Recreation Plan)

How do the EIR alternatives reflect the opinions and desires of the public with regard to preferred types of open space? (Toby Levine, Mission Creek Conservancy)

I am speaking primarily on the issue of open space. I have reviewed the EIR, the proposed EIR statement. And I am dismayed to find neither of the serious alternatives, Alternative A or Alternative B, seem to provide adequate open space, although Alternative B does provide substantially more than Alternative A. It also provides for substantially more people to occupy that space.

As a result, the amount of acreage of open space per thousand units of people seems deficient. . . . I'm acutely aware of how little open space we have. And it seems to me that Mission Bay is an idea, an opportunity to start rectifying that imbalance.

. . . [I]ntegration of Mission Bay with the rest of the City [is] . . . something that needs to be done. It seems to me that one of the ways in which that integration can take place is by making open space in Mission Bay available not only to people in Mission Bay . . . but also to people in other neighborhoods as well.

I would encourage the Commission to review the Alternatives . . . to expand the amount of open space and really make the Mission Bay a project which is of benefit to the entire community and not just to the residents who may one day live there. (Dale Freeman)

Response

The EIR recognizes that, at build-out, there would be a shortfall of open space to meet Project Area resident demand for neighborhood and district

open space, based on NRPA standards. As noted in the Comments, neither Alternative A or B nor other major variants, including Variant 11 (EIR Hearing Proposal), would meet the NRPA standard. Mitigation Measure D.13, in Volume Two on p. VI.D.118, identifies provision of additional open space to meet NRPA standards as a measure to mitigate the shortfall. That mitigation measure could be adopted as part of the project. (In Volume Two, Chapter VIII. Significant Environmental Effects Which Cannot Be Avoided, the EIR identifies significant adverse effects for which no mitigation measures are available or available measures would not mitigate to a level of insignificance.)

The EIR is conservative in its evaluation of the NRPA criteria, and compares estimated user demand to proposed parklands and wetlands open space only. The analysis does not include other types of open space in the Alternatives (China Basin Channel and open space associated with residential, office and S/LI/RD uses, which would be publicly accessible). At build-out, Alternative A would include 43.3 acres of parkland and 28 acres associated with other uses and the channel; Alternative B would include 82.1 acres of parkland and wetlands, and 20.3 acres associated with other uses and the channel (see Volume Two, pp. VI.D.82-VI.D.83, and Table VI.D.15 on p. VI.D.77). In addition, two new variants are analyzed (see XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and pp. XV.P.27-XV.P.46) which contain 61 and 51 acres of parkland, respectively, in different configurations.

As the Comment notes, and as is stated in the EIR, the Mission Bay Project Area and vicinity is now poorly served by open space and recreation facilities. Proposed open space within the Mission Bay Project Area would be accessible to residents of Nearby Areas, particularly portions of South of Market and Showplace Square Nearby Areas. The accessibility of Project Area open space at build-out to Project Area residents and employees is discussed in Volume Two on pp. VI.D.83-VI.D.85, and in the Response on pp. XV.D.1-XV.D.2.

The potential open space uses identified in the EIR are conceptual, and are intended to demonstrate the range of passive and active recreational activities that could be accommodated. Detailed plans and programs for open space facilities and uses would be developed as the Mission Bay planning process and implementation of the resulting plan proceeds. The planning process and later implementation would take into account elements identified by the Recreation and Park Department for open space and parkland development, including safety

features, lighting, maintenance, and sunlight access. That Department would have a role in specific park designs as well. This has been incorporated into the following new mitigation measure, D.15a, which is added after Mitigation Measure D.15 on p. VI.D.119 of Volume Two:

- **Alternatives A, B - In conducting planning and design of recreation and open spaces in Mission Bay, take into account such guidelines as may be provided by the Recreation and Park Department as they may apply to such design aspects as safety features, lighting, maintenance, activity levels and sunlight access (among others).**

Sunlight access in Mission Bay Project Area open space is discussed generally in Volume Two on p. VI.I.51 and pp. VI.I.56-VI.I.69. That discussion identifies Proposition K (Sunlight Ordinance) restrictions on shading of open space under the jurisdiction of the Recreation and Park Department. It is not known whether Proposition K would apply, because ownership of, or jurisdiction over, Mission Bay Project Area open space has not been determined. The EIR generally characterizes shadow effects of building envelopes up to the maximum proposed height limits (up to 110 feet in Alternatives A and B), and of buildings at the 40-foot height criterion below which the Sunlight Ordinance would not apply.

Table VI.D.19, on pp. VI.D.87-VI.D.91 of Volume Two, identifies the relationship of the Mission Bay Alternatives to San Francisco Master Plan Recreation and Open Space Element policies regarding public access and open space along the China Basin Channel waterfront, and identifies open space links from the Project Area to the waterfront east of China Basin Street outside the Project Area. As noted in Table VI.D.19 on p. VI.D.89, in the Citywide System Policy 8 discussion about developing a citywide trail linking parks, the waterfront and neighborhoods, open space along the channel would link the Project Area and Nearby Areas to the waterfront.

The survey cited in the Comment provides a general overview of public preferences for open space uses, based on a statewide study. In Volume Two, p. VI.D.65 and Table VI.D.12, on pp. VI.D.67-VI.D.68, identify the range of open space uses that could be provided in the Mission Bay Alternatives by the year 2000; p. VI.D.76 and Table VI.D.16, on pp. VI.D.78-VI.D.79, illustrate that range for build-out/2020. Those uses would provide a variety of opportunities for active and passive recreational activities. Alternative B would include development of

wetland areas that would be part of a "nature-oriented" park as discussed in the Comment. Alternatives A and N would not have "nature-oriented" parks or reserves.

Comment

Open Space. The DEIR fails to adequately explain the limitations of the open space standard utilized to calculate open space demand. The DEIR utilizes a standard of "five acres of open space per 1,000 residents" (See, e.g., Vol. I, Chap. [II, p.]II.39). The five acres of open space per 1,000 residents standard is, in fact, a general guideline promulgated by the National Recreation and Park Association ("NRPA"). While the NRPA guidelines are cited in the Recreation and Open Space element of the City's Master Plan, they are only intended as illustrative benchmarks, not necessarily reflective of what open space standards might satisfy demand.

For example, in *Recreation, Planning and Design*, by Seymour M. Gold, Mr. Gold observes "no two communities need have the same standards. There is no planning requirement that mandates similar standards for the diverse conditions, populations and values of Urban America. . . . Standards which are agency-, instead of people-serving, are unrealistic and will undermine public support of the recreation plan. . . . Despite conspicuous warnings against the unqualified use of standards, most cities have adopted the NRPA standards without question. . . . Communities are often evaluated by 'how much' rather than 'how good' their facilities are, despite a wide range of demographic variables." As Mr. Gold observes, there are other methods of calculating open space needs, including what he refers to as the "innovative method", the "recreation experience method", and the more experimental "qualitative index". The DEIR should recognize that the standard it utilizes is but one measure, not, necessarily, the most appropriate. . . . (James Augustino, Santa Fe Pacific Realty Corporation)

Response

As cited on pp. VI.D.68-VI.D.70 in Volume Two of the EIR, the Recreation and Open Space Element of the City's Master Plan uses the NRPA open space ratios as general criteria for overall adequacy of open space in San Francisco. Policy 1 of Citywide System Objective 2 indicates it will not be possible "to achieve the NRPA standard in City limits, but, to the extent it reasonably can, the per capita supply of open

space should be increased...." (p. VI.D.70). Table VI.D.14, on p. VI.D.71 of Volume Two, and Table VI.D.18, on p. VI.D.81 of Volume Two, compare Project Area open space to demand based on NRPA standards for the years 2000 and build-out/2020, respectively. The tables qualify the use of the NRPA standards and state in note /b/ that "use of a standard to estimate open space demand has several shortcomings. Standards address quantity, but not type and quality of open space or how well it is designed, meets community needs, or reflects current leisure needs and preferences. Standards do not account for socioeconomic changes in a community over time and may or may not be realistic in light of a community's ability to implement them."

The intent of use of NRPA criteria in the EIR was to relate the quantity of Project Area open space to overall City goals for increasing open space, and, as one criterion, measure the adequacy of open space planned with each Alternative. Other issues, such as the distribution, size, accessibility, and potential uses of Mission Bay open space would be considered in adopting a Mission Bay land use program.

See also the Response on pp. XV.D.5-XV.D.7, which discusses Recreation and Open Space policies that address both quantity and distribution of open space in San Francisco.

Comments

The open space analysis is quite inadequate. It does not deal with the needs of various age populations; the open space is not evaluated in terms of integration within Mission Bay; and the impact of usage by surrounding populations (which are designated high need neighborhoods in some cases) is not considered adequately....

Vol. 3 - XIV.D.31 (Future Age Distribution). Problem with [the table on Future Age Distribution at Mission Bay 2000 and 2020] is that it lumps together everyone from 18-64 in the same category, and this is, naturally, the largest category, 66%. However, the recreational and open space needs of a population with such an age span would vary enormously. And whatever recreational/open space facilities needed by the particular ages are not spelled out in the open space component of the EIR.

The group of 65 and over, the second largest, represent 15% of the future Mission Bay Population. This is an important component, a larger number than all the children ages 0-13, in Mission Bay. Does the open space component in A serve them based on identified needs?....

. . . [I]f we accept the population projections in Plan [Alternative] A, there will be 935 youngsters, ages 5-10, or under Plan [Alternative] B, 1208. But there is no effort made to address their needs. . . . (Toby Levine, Mission Creek Conservancy)

Response

Demographic projections by age group were made for the EIR. They represent a best estimate based on available data projected to build-out of Mission Bay in 2020. The demographic projections provide adequate information for decision-makers and the public to make comparisons among alternative development proposals. It would not be appropriate, however, to use those estimates for specific park planning. Unforeseeable factors affecting populations, such as changes in immigration patterns, will cause the component populations in Mission Bay and San Francisco as a whole to change over time. The park planning process for Mission Bay (and San Francisco) needs to retain the flexibility to address such changes.

Mission Bay does have opportunities for many different kinds of recreational activities. The potential open space uses identified in the EIR are conceptual, and are intended to demonstrate the range of passive and active recreational activities that could be accommodated. Detailed plans and programs for open space facilities and uses would be developed as the Mission Bay planning process and implementation of the resulting plan proceeds.

The ranges of activities that could occur in active and passive open space are identified on p. V.6 of Volume Two, Chapter V. The EIR Alternatives and Approval Process, and in Table VI.D.12 on pp. VI.D.67-VI.D.68 of Volume Two. Descriptions of the designated open space areas for Alternatives A and B, on pp. VI.D.72 and VI.D.74, respectively, further identify the ranges of possible activities. These include activities and equipment for various age groups. Passive recreation areas could include walking paths, picnic areas, benches, wooded and landscaped areas, and tot lots. Active recreation areas could include playing fields and courts.

Comment

Vol.2 [p.VI.D.68 (Project Demand). Project Area Demand does not show at all the existing nor the possible needs of the birds, marine mammals and fish that now live in the area of Mission Creek. (Toby Levine, Mission Creek Conservancy)

Response

The demand for open space in the Project Area, discussed in Volume Two on pp. VI.D.68-VI.D.70, is in the context of Mission Bay employees and residents.

The potential suitability of Project Area open space as wildlife habitat is discussed in Volume Two, VI.M. Vegetation and Wildlife, pp. VI.M.7-VI.M.14; the aquatic environment is discussed on pp. VI.M.14-VI.M.20. Wildlife habitat and the aquatic environment are discussed in XV.K. Vegetation and Wildlife, also.

Comment

In regards to the Mission Bay Environmental Impact Report, the SF. League of Urban Gardeners would like to ensure, not only that the community garden presently in existence along Channel St. be preserved, but that the garden be expanded to accommodate additional gardeners. We feel that a community garden should be a logical component of the open space plans. In general, there is a much greater demand for community garden plots than there are plots available city-wide....

Of the three alternatives, we are supportive of Alternative B, with the inclusion of a community garden in the open space component of the plan. (Keith Nakatani, San Francisco League of Urban Gardeners)

Response

The Mission Bay Alternatives identify a number of activities that could occur within designated open space areas. Community gardens could be an appropriate activity within those areas identified for passive recreational areas, as noted on p. V.6 of Volume Two, Chapter V. The EIR Alternatives and Approval Process.

The following text is added at the end of the first partial paragraph on p. VI.D.13 of Volume Two:

- A community garden is located at Sixth and Channel Streets. The garden is sponsored by the San Francisco League of Urban Gardeners, Mission Creek Association, Travelers Insurance Co., Port of San Francisco, and Firemans Fund Insurance.

Comment

Vol. 3, XIV.D.32 (Recreational Acreage Used). . . [L]ow key activities (or passive as denoted by some planners), e.g. bike paths, walking trails, picnic areas, viewing and sitting mounds, running paths, are not included in space [recreational acreage standards] figures. (Toby Levine, Mission Creek Conservancy)

Response

The Comment refers to Table XIV.D.29 on p. XIV.D.32 of Volume Three, Appendix D, which presents general area requirements for sports activities, play areas and recreation buildings. That table is cited in Volume Two on p. VI.D.65 for the year 2000, and on p. VI.D.76 for 2020, to indicate the range of areas required for active recreation areas proposed for Alternatives A and B. Alternatives A and B would provide both active and passive recreation areas, as noted on these pages and shown, for example, in Figure VI.D.6 on p. VI.D.62; Figure VI.D.7 on p. VI.D.63; Table VI.D.11 on p. VI.D.66; and Table VI.D.15 on p. VI.D.77, all in Volume Two. Uses cited by the commenter, such as paths, trails and sitting areas, could be included in both active and passive open space areas identified in Alternatives A and B.

Comment

[Vol. Two, pp. VI.D.62-VI.D.63.] Also, note that roads through the various open spaces are not shown, but they will surely exist. Have roads through open space been subtracted from the total? Or are they considered a part of the open space? This should be clarified. (Toby Levine, Mission Creek Conservancy)

Response

Roadways shown in the Mission Bay Alternatives A and B at build-out (Figures V.1 and V.2 on p. V.12 and p. V.14, respectively, of Volume Two, Chapter V. The EIR Alternatives and Approval Process) are not included in the open space acreage discussed in the EIR. The open spaces proposed in each Alternative are conceptual and would, as discussed in Volume Two on pp. VI.D.61, VI.D.72-VI.D.74 and VI.D.82- VI.D.85, accommodate uses in a variety of configurations. Service roads or other access roads could be necessary and would be included within the open space area acreages at build-out.

USE OF OPEN SPACE FOR PORT BACKLAND

Comment

Vol. 2 VI.D.62-63-Alternative A and B open space map. A large portion of OS1 or OS7 will, according to the Mayor, have to be eliminated if the Port needs the land for back up to piers 48-50. If this is the case, then the open space acreage is even lower in both plans A and B....

Vol. 2 VI.D.66 (Open Space Map B). A portion of both the active and passive open space will have to be eliminated in Alternative A, according to the Mayor, further reducing the open space quotient. Alternative B is not affected up to the year 2000 by the Mayor's contention. But it could be drastically affected after the year 2000.

Vol. 2 [p. VI.D.67 (OS1). Table showing proposed open space uses for Alternative A show active and passive uses in OS 1, which are now in contention, and should be eliminated from the acreage count for the year 2000 as one of the variants. (Toby Levine, Mission Creek Conservancy)

Response

A development agreement application was submitted by the project sponsor in May 1989 after the Draft EIR was published; it is currently under review by the Department of City Planning. Its open space program includes some port backland (about six acres) at the northeasterly corner of the Project Area, east of Third Street, south of China Basin Channel, and west of Piers 48-50. That revised plan, with about 63 acres of open space (including China Basin Channel), is evaluated as a variant to Alternative A (see Variant 12 [Development Agreement Application] in XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46).

Alternative A would have 16.5 acres of open space (OS-1, shown in Figure VI.D.6 on p. VI.D.62 of Volume Two), and Alternative B could have 13.6 acres of wetlands open space (OS-7, shown in Figure VI.D.7 on p. VI.D.63 of Volume Two) at that location.

If six acres of that open space were eliminated in Alternative A to provide the same amount of backland space for Piers 48 and 50, at build-out Alternative A would have a total of 26.8 acres of parkland, rather than 43.3 acres, and would have an open space / population ratio of about 1.9 acres per 1,000 population, compared to the three acres per 1,000 proposed. If the wetland at that

location were reduced by a similar amount in Alternative B, the Alternative would have a total of 68.5 acres of parkland, rather than 82.1 acres, a ratio of 3.6 acres per 1,000 population, compared to about 4.4 acres per 1,000. It should be noted that such a six-acre reduction in Alternative B could result in an inadequate wetland design; the remaining acreage, however, could be used as a park.

With a reduction there would be a greater shortfall in the goal of a neighborhood and district open space / population ratio of five acres per 1,000 residents than that described on p. VI.D.79 of Volume Two for Alternatives A and B.

The development agreement application for Mission Bay, as currently proposed, would have a total of 51 acres of parkland (excluding China Basin Channel), and an open space ratio of 3.1 acres per 1,000 population (see Variant 12 in XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46).

Comment

Vol. II, V.11-15, Figures V.1 and V.2. The open spaces or parklands proposed within the proposed I-280 touchdown ramps project area may require the accommodation of the Highway Transportation Act Section 4(f). The City and County of San Francisco should coordinate with Caltrans before the parklands are designated or developed. Otherwise, the location of the I-280 touchdown ramps could not be guaranteed, unless it could be demonstrated that the ramps could not be located elsewhere and that there was no feasible and prudent alternative to the use of parklands. (Gary Adams, Caltrans, District 4)

Response

The Comment is acknowledged. The proposed I-280 touchdown ramps at King Street are part of the Caltrans' I-280 Transfer Concept Program (TCP). In Alternatives A and B, the ramps would cross proposed Project Area open space at the west end of China Basin Channel, developed as part of the Mission Bay Alternatives; the ramps would not cross existing parkland. Section 4(f) of the Highway Transportation Act (49 U.S.C. 303 or 23 U.S.C. 138) specifies that parkland may be used for highway construction only if there is no feasible and prudent alternative to the use of such land. Although it is an independent project, the I-280 TCP Program is a major consideration in the planning process for Mission Bay. Caltrans and the City of San Francisco have been

coordinating their plans for the area. The schedule for the I-280 TCP is ahead of that for Mission Bay. It is expected that the planned I-280 touchdown ramps would be constructed well before the parkland proposed near that area in Alternatives A and B (should parkland be approved for that area in the development agreement). Therefore, no conflict with Section 4(f) of the Highway Transportation Act is anticipated.

OPEN SPACE MAINTENANCE AND PERSONNEL

Comment

The DEIR states that, "It has not been determined what agency or private entity would maintain Mission Bay open spaces, parks and recreation facilities" (p. VI.D.65). The Recreation and Park Department would have responsibility for maintaining any public parkland deeded to the city, including the 33.4 acres identified for Alternative A and the 16.3 acres identified for Alternative B. China Basin Channel, the wetlands and open space associated with housing, office space and S/LI/RD space should not be the responsibility of this Department.

The estimated personnel requirements presented in Table VI.D.13 (p. VI.D.69 of the DEIR) are lower than what would be necessary for the intensely used (seven days per week) facilities. Gardening positions should be increased by four, plus one park section supervisor; custodian positions for a seven day recreation center would be a minimum of four. These estimates are based on similar facilities maintained by this Department in the city. Actual personnel requirements would be specified after more details are available concerning actual landscape plans and park facilities and programs. The development and maintenance of special features, such as fountains with basins and wetlands, would be the responsibility of the applicant (Santa Fe Properties). This Department would be responsible for athletic fields, courts, pathways and recreational facilities open to the public.

A mini corporation yard for equipment storage (mowers, tools, fertilizer, hoses, compost, chemicals), repair of park equipment and a small staff office would be needed to service this area of the city.

Consideration will need to be given to costs associated with litter control for Mission Bay Parks. As a point of reference, litter control costs for the Marina Green are approximately

\$90,000 per year. (Mary E. Burns, San Francisco Recreation and Park Department)

Response

The Comments are acknowledged. The personnel estimates provided in the Comment are more current and refined than those presented in the EIR. In Volume Two, note /124/, on p. VI.D.133, and Table VI.D.17, on p. VI.D.80, identify the basis for estimates of personnel requirements. The personnel estimates in the EIR, as noted in Table VI.D.17, include staffing requirements for active and passive parkland, rather than intensely used parkland only, as stated in the Comment. Thus, the EIR estimates, based on factors provided by Recreation and Park Department staff, appear reasonable for average personnel needs for active and passive uses. As the Comment indicates, more-detailed personnel requirements, as well as equipment needs and costs, and service area requirements would be formulated when actual landscape plans, park facilities and programs are identified. (The agency or entity that would maintain Mission Bay open space, as noted in the EIR, is still to be determined.)

Comments

Insufficient attention [is] given to the opportunity to build a major waterfront park as a central feature of the Mission Bay project. The Boosters' Waterfront Committee has insisted throughout its presentations over the past year that a Mission Bay project without a significant new waterfront park along this last piece of open San Francisco waterfront is not acceptable. (Arden Smith, Potrero Boosters and Merchants Association)

There is no comment in the EIR as to how the entire open space system will be integrated . . . in other words there appears to be no open space plan to comment upon.

[Vol. 2, p. VI.D.15] mentions the S.F. Master Plan in general and the Recreation and Open Space Element in particular and the requirement for reserving a waterfront strip for a continuous pedestrian and bicycle trail system. But this continuous system is not obvious in either Plan A or Plan B. Connection needs to be made throughout the development and then with other bike and walking trails in the vicinity. (Toby Levine, Mission Creek Conservancy)

It seems to us that the most physically beautiful City in the United States ought to have a water-front park to take advantage of the natural

beauties of the Bay. Neither the Marina Green nor the Hyde Street Pier area provide the sunny weather and non-commercial setting where residents can stroll and enjoy the weather and the setting. This is certainly the City's last chance to have such an amenity. It seems to us as much a necessity as office and industrial spaces and housing. After all, our City's economy is based on tourism. If we fail to continue to attract the tourist dollar, we are indeed in deep trouble. (Gloria Van Winkle, Potrero Boosters and Merchants Association)

Response

The Mission Bay Project Area includes waterfront areas north and south of China Basin Channel, west of Third Street, and south of the channel between Third Street and Pier 48. Other waterfront areas east of China Basin Street are outside the Project Area on property generally controlled by the Port of San Francisco. Alternatives A, B and N would include waterfront open space north and south of China Basin Channel. Alternatives A and B would have open space east of Third Street or the channel, of 16.5 acres and 13.2 acres of wetland, respectively. Alternative B would have a wetlands south of Pier 54. That open space's frontage on the Bay would be limited by existing port facilities assumed to continue in use (see Volume Two, Figures V.1 and V.2 on p. V.12 and p. V.14, respectively, of Chapter V. The EIR Alternatives and Approval Process; Figure VI.D.6 on p. VI.D.62; and Figure VI.D.7 on p. VI.D.63).

On pp. VI.D.87-VI.D.88 of Volume Two, Table VI.D.19 outlines the relationship between Mission Bay Alternatives and open space objectives and policies of the Recreation and Open Space Element of the Master Plan. As noted in the table, Alternative A would provide open space along the China Basin Channel shoreline that could accommodate a shoreline trail. In Alternative B, channel shoreline open space could also accommodate a trail, but would need to be diverted around proposed wetland areas. Figures V.1 and V.2 show these areas for each Alternative at build-out. The identified open space areas in the Mission Bay Alternatives provide linkages with the shoreline, as well as with the surrounding Nearby Areas.

On p. VI.D.89, Table VI.D.19 describes the linkage of Mission Bay open space with other land uses in the Project Area and Nearby Areas, specifically as it relates to City policies. As shown in Figures V.1 and V.2, paved walking and biking paths connect to active and passive

recreation areas. As stated in Volume Two on p. VI.D.83 and p. VI.D.84, all Project Area residential and non-residential uses would be located within about 700 feet of Project Area parkland.

In Alternative A, for example, paved walking and biking paths would connect the southern and eastern portions of the Project Area with active and passive recreation areas along China Basin and the channel. In Alternative B, the paved walking and biking open space strip from Third Street near Yuma would connect to the open space areas in the southeastern area to active and passive recreation areas along China Basin and the channel.

Other open space configurations are incorporated in two new variations on the Alternatives, which are evaluated in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and pp. XV.P.27-XV.P.46. Variant 11 (EIR Hearing Proposal) includes a 36-acre park with 20 acres of wetlands habitat. Variant 12 (Development Agreement Application) includes open space along much of the eastern border of the Project Area.

WATER-RELATED OPEN SPACE AND RECREATION

Comment

Table [VI.D.12 on p.VI.D.67] shows that active recreation will be developed on the edges of the Mission Creek for Alternative A. (OS 3). Totally inappropriate, for if any intention is to be made to utilize the Creek for more logical activities such as bird watching, sitting, walking, bike riding, pedal boating, kite flying, picnicking, running etc., then active sports, such as baseball, soccer, etc. are totally inappropriate on the edge of the Creek. The southern edge must be kept natural.

Table [on p. VI.D.67] shows that under alternative B, no active sports areas will be developed by 2000, though this seems illogical. There needs to be a balance. It also appears peculiar that since Alternative B is the so-called open space and housing alternative, that no paved walking or bike paths are developed by the year 2000. (Toby Levine, Mission Creek Conservancy)

Response

The distribution of active and passive recreation areas identified in Table VI.D.12, on p. VI.D.67 of Volume Two, is a general proposal that

illustrates the range of activities that could be accommodated. Specific open space plans, including whether active recreation areas should be developed away from the south side of China Basin Channel in Alternative A, would be determined as Mission Bay planning proceeds. Open space OS-3 contains a total of 10.8 acres; it would be possible to have active open space removed from the channel frontage but still locate it within that area.

The development in the Project Area by the year 2000 was assumed for purposes of an interim year analysis; the open space areas were identified within the framework of other Project Area development, as discussed on p. V.29 of Volume Two. This interim phase analysis does not preclude incorporation of active open space by 2000 under Alternative B, as planning proceeded. Mitigation Measure D.14, described on p. VI.D.119 of Volume Two, includes provisions for active open space under Alternative B by 2000. Passive recreation areas could include walking and biking paths, as described on p. V.6 of Volume Two, Chapter V. The EIR Alternatives and Approval Process. The facilities identified to be developed under Alternative B by 2000 could include paved paths for hiking and biking. See also the preceding Response.

Comment

The educational opportunities of the wetland and open space system (as described by MCC . . . in a separate document entitled MCC Design Guidelines) . . . must be included in the EIR. . . .

. . . The omission of natural areas [from Table VI.D.19] creates a limited range of recreational opportunities.

Under Alternative B, the second sentence [on p.VI.D.89] is patently false. A wetland can serve a greater range of ages and physical abilities than any other facility (e.g. baseball diamond, tot lot, basketball court, swimming pool, etc.). There is no reason not to make wetland viewing areas and the interpretive center wheelchair accessible. . . .

Delete the statement [on p.VI.D.89] "Wetlands areas may not allow as wide a range in open space and recreation opportunities compared to Alternative A." If this statement is made, then it should be made for all site-specific activities . . . such as baseball, which precludes tot lots in the same space; soccer, which precludes picnicking, etc. All recreation specific sites should contain the same proviso. In fact, wetlands, with their opportunities for walking, biking, bird watching

and picnicking provide at least as much recreational value as other site specific recreational activities. Take a look at Lake Merritt in Oakland, which includes a tidal wetland; or Crab Cove in San Mateo County, to get an idea of the variety of activities that may take place. . . .

Vol. 2 [p.]VI.M.12 (interpretive center). No mention [is made] of MCC's proposed interpretive center which would be an additional educational center to supplement the school district's effort at Fort Funston, on the Pacific, and the Josephine Randall Jr. Museum in the center of the City to provide environmental education to young people as well as to adults. Though on p. VI.M.19 the EIR does state that "The wetland would also provide an important educational experience for many people who would otherwise not have seen a wetland at close range." This benefit should receive more attention.

Wetland interpretive centers throughout the Bay Area (Crab Cove, Hayward Area Recreation District, Richardson Bay Audubon Center, etc.) are not able to keep up with demand. There are long waiting lists for classroom field trips. The National Wildlife Refuge Wetlands in Fremont gets more than 250,000 visitors per year. San Francisco should be doing its share to help meet the regional need for access to, information about and enjoyment of the bay's natural edge. . . .

. . . A small indoor center, possibly associated with a historical museum and on about the same scale as the Crab Cove Visitor Center, . . . should be unobtrusive in its architecture, and with windows looking out onto the marsh. (Toby Levine, Mission Creek Conservancy)

Response

The EIR does not assume or specify the facilities to be included in open space areas; rather, it identifies a range of uses and structures that could be accommodated in active and passive recreation areas, including wetland areas. An interpretive center would not be precluded. Wetland areas would provide additional passive recreation opportunities, as noted on p. VI.M.12 in Volume Two, VI.M. Vegetation and Wildlife, and educational benefits, as stated on p. VI.M.19. Recognizing the values of wetland areas proposed in Alternative B, p. VI.M.23 suggests ways to enhance the educational and recreational value of the wetland areas.

The statement on the range of appropriate uses, taken from Table VI.D.19 on p. VI.D.89 of Volume Two, was intended to point out the

differences in character of these open space areas. Page VI.D.85 of Volume Two identifies that the wetland areas would provide a visual, educational and recreation resource in the Project Area. As noted on p. VI.D.85, wetland areas represent a trade-off between types of uses; wetlands would provide for a range of activities but, because of their ecological sensitivity, they would require more passive, lower intensity uses.

The following sentence is added to the "Alternative A" column for "9. Citywide System, Policy 7" in Table VI.D.19 on p. VI.D.89:

- Alternative A would not include wetlands areas and related recreational or educational activities.

The last sentence in the second paragraph under the "Alternative B" column on this page is revised and a new sentence is added, as follows:

- Wetland areas would provide a visual, educational and recreational resource for all age groups. Wetland acreage would require more passive, less intense uses and, consequently, represent a trade-off between passive and active space.

Under "Recreation & Parks" on p. II.38 of Volume One, the following new sentence is added after the second complete sentence in the right-hand column, first paragraph:

- Wetlands in Alternative B would provide educational opportunities and represent a tradeoff of active for passive open space.

Comment

The table [Table VI.D.19] should also include the "Natural Areas" paragraph under Policy 2 (p. I.3.13 of the Open Space Element). Areas supporting indigenous flora and fauna should be protected from change that would alter the habitat. Alternative A would destroy existing habitat. Any list of relevant Master Plan policies should also include the Environmental Protection Element. (Toby Levine, Mission Creek Conservancy)

Response

Policy 2 of the Recreation and Open Space Element addresses preservation of existing public open space, including protection of natural areas that "are relatively undisturbed and remain in a nearly natural state" (Recreation and Open Space Element, p. I.3.13). In Volume Two of the EIR,

pp. VI.M.1-VI.M.2 of VI.M. Vegetation and Wildlife describe the altered state of the Mission Bay Project Area, a former major embayment of San Francisco Bay. No rare or endangered terrestrial vegetation or wildlife are known to exist in the Project Area. Aquatic plant and wildlife species are supported in the China Basin Channel, the altered remnant of Mission Bay. With Alternative A, as noted on pp. VI.M.8-VI.M.9, the channel would continue to provide habitat for water birds, although increased human activity near the shoreline would preclude nesting by birds (which is not known to occur at present). Pages VI.M.14-VI.M.16 describe potential effects of proposed dredging of China Basin Channel, under Alternative A. As stated on p. VI.M.14, turbidity (cloudiness) in the channel caused by the dredging "would likely cause short-term disruption of feeding and respiration of resident invertebrates and of fishes unable to avoid or remove themselves from the area.... While some fish would die because of dredging, it is not likely that significant fish kills would result."

Page VI.M.14 also states that the fish assemblages near the mouth of the channel "most likely would not be affected by dredging." Dredging, however, if carried out during the December to March peak spawning season of Pacific herring could cause local disruption of the population of that fishery. The EIR concludes that, assuming water quality has not been significantly degraded in the channel at build-out, dredging would not cause any long-term effects on fish populations in the channel.

The Environmental Protection Element of the Master Plan includes the Plan for Conservation, adopted in 1973, and the Plan for Transportation Noise Control, adopted in 1974. The Plan for Conservation contains objectives and policies for protection of bay, ocean and shorelines; air, fresh water, land, and flora and fauna in San Francisco. The policies are general, and typically refer to other planning and regulatory activities of local, regional, state, and federal jurisdiction. Policies relevant to Mission Bay include Bay, Ocean, and Shorelines (Objective 3), Policy 1, to "cooperate with and otherwise support regulatory program of existing regional, state, and federal agencies dealing with the Bay, Ocean, and Shorelines" (Environmental Protection Element, p. I.6.5). The relationship of Mission Bay Alternatives to regional, state and federal agencies is discussed on pp. VI.A.57-VI.A.65 of Volume Two, VI.A. Public Plans, Policies and Permits, including waterfront development policies of the Bay Conservation and Development Commission, Regional Water Quality Control Board, U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service.

Bay, Ocean, and Shorelines (Objective 3), Policy 2, is to "promote the use and development of shoreline areas consistent with the Comprehensive Plan and the best interest of San Francisco" (Environmental Protection Element, p. I.6.5). In Volume Two, p. VI.A.34, pp. VI.A.41-VI.A.43 and Table VI.A.1 on pp. VI.A.35-VI.A.40 outline the relationship of the Mission Bay Alternatives to objectives and policies of the Central Waterfront Plan of the San Francisco Master ("Comprehensive") Plan. Table VI.A.2, on pp. VI.A.48-VI.A.51, compares the Alternatives to other Elements of the Master Plan.

Land (Objective 7), Policy 1, is to "preserve and add to public open space in accordance with the objectives and policies of the Recreation and Open Space Plan" (Environmental Protection Element, p. I.6.9). The relationship of Mission Bay Alternatives to the Recreation and Open Space Plan is discussed in Table VI.D.19 on pp. VI.D.87-VI.D.91 of Volume Two.

Flora and Fauna (Objective 8), Policy 2, is to "protect the habitats of known plant and animal species that require a relatively natural environment" (Environmental Protection Element, p. I.6.11). In Volume Two, pp. VI.M.7-VI.M.20 discuss the effects of Mission Bay Alternatives on aquatic and terrestrial vegetation and wildlife.

Comment

None of the three alternatives deal with the need for public access to the Bay in an adequate manner. As a matter of fact, that requirement is not really dealt with at all. (Toby Levine, Mission Creek Conservancy)

Response

Policies relating to public access to the Bay are identified and described on pp. VI.A.21-VI.A.22 of Volume Two, VI.A. Public Plans, Policies and Permits. On pp. VI.A.36-VI.A.37 of Volume Two, Table VI.A.1 summarizes the consistency of the Mission Bay Alternatives with policies relating to public access. As shown in Figures V.1 and V.2 (p. V.12 and p. V.14, respectively, of Volume Two, Chapter V. The EIR Alternatives and Approval Process), there are identified publicly accessible open space areas where the Mission Bay Project Area borders the water. Other waterfront areas east of China Basin Street are not part of the Mission Bay Project Area. That latter area, which

includes Piers 48 to 64 and adjacent seawall lots, is owned and managed by the Port of San Francisco, as described in Volume Two, VI.B. Land Use, Business Activity, and Employment, pp. VI.B.36-VI.B.38.

COMMUNITY, CULTURAL AND RECREATIONAL FACILITIES

Comment

In general, community services are given short shrift in the Draft EIR. The main idea is that expanded city services, such as schools, police and fire protection, parks and recreation, libraries, and water-sewer service will be met simply by incremental expansion, or further taxing existing services. There is nothing far-sighted, innovative, or supportive of providing city-wide useful expanded community services....

Somehow I feel that the EIR should consider new forms and means of providing community services. Perhaps the police are not dispatched from fort-like central stations like the Hall of Justice - Southern Station, but might live in the Project and have small "offices" in several buildings scattered throughout the Project. I would think that these would have considerable benefit with minimal cost. A firehouse might be built into and be a part of a community center, or a satellite library. (Richard H. Moss, Potrero Boosters and Merchants Association)

Response

Many possibilities exist for providing community facilities in Mission Bay. Allocation of facilities would be done as part of the development agreement process, in concert with the agencies providing the services. It is not the purpose of the EIR to undertake innovative replanning of citywide provision of community services, but to assess impacts on those services, generated by new development, based on demand variables developed by the service providers.

Comments

The discussion omits full evaluation of existing "community center" resources of all kinds in surrounding areas, such as Canon Kip Community House in the South of Market. The programs and service population of each should be inventoried to permit understanding of their potential use by the future Mission Bay population, or a lack of additional capacity.

The discussion completely omits evaluation of existing religious institutions -- churches -- in nearby areas. Religious institutions in fact also function as community facilities in a wide variety of ways, and are an integral part of any real neighborhood. . . .

The DEIR fails to discuss in general Mission Bay needs for public or private 'community centers,' although such a center is proposed in the development program. Such a multi-use facility can take many forms and accommodate many types of programs. Dual purpose use of other facilities, such as the proposed SFUSD school also is possible. . . .

Given the lack of a discussion of 'community centers,' there is no list of possible mitigation approaches to satisfy such a general need. A single community center is inadequate, due to the known organizational inability to satisfy every community function in one building and one program. A mitigation approach would include, besides the traditional "community center" proposed in the plan, requirements for support services to be provided on-site by developers of senior housing, requirements for space to be made available for childcare services by commercial and market-rate housing developers as appropriate, and some general requirement for some land to be made available for purchase at a discounted price by community service agencies which would build their own facilities. This specifically should include religious institutions, i.e., a church site, if they will provide community services as well. (John Elberling, San Franciscans for Reasonable Growth)

In the EIR cultural resources are addressed as historic artifacts. My definition of cultural resources is more in the line of libraries, theaters, open space and community centers for the residents. I have been unable to find any discussion of the subject in the EIR with the exception of a library, which they won't get. (John B. DeCastro, Potrero Boosters and Merchants Association)

When we think of San Francisco, we think of many things. One of the things we do think about is the various cultural amenities that we have here in the City, ranging from visual artists, to the new film industry that's starting up, to street artists, to comics, to theatre, to dance, the symphony, the opera and museums.

These and many other types of artists add a special vitality to any city. The creative energy and imagination keeps this City alive as new ideas and visions are shared and experienced by residents and visitors alike.

There is a need for a healthy and active artistic community in a major city, and that goes without saying. We need to make every effort to assure the residents of San Francisco and specifically the future residents of Mission Bay development that the community and cultural facilities will be a significant part of this new neighborhood. . . .

If we look at the history of this project -- and as I said, I am [a] member of PLAN and the Mission Bay Clearinghouse, and I have been involved for over five years -- during preliminary discussions I discovered that many consultants and planners were not quite sure [about] the distinction between community and cultural facilities. And both of these components are vital to the ultimate success of the project.

Community facilities respond to the needs of the citizenry such as police, fire, schools, health, senior centers, child care, libraries, neighborhood house, community centers, park and rec facilities, recycling centers, community gardens, and the list goes on. . . .

In the area [of] cultural facilities, there is a need for many different things. One of those is a 400-seat theatre, also small, multi-purpose professional theatre, rehearsal space, neighborhood art center with classroom space, gallery space, office space, and small museum space as well.

There is also a need for other smaller facilities and galleries throughout the project as well as an artist live-work component.

As I mentioned earlier, throughout my years of involvement in this project, neither city planners nor the developer have made a real commitment to the arts at Mission Bay. All along, both sides in this debate have talked about a neighborhood, but this will be a sterile wasteland without meaningful venues for artistic expression and community.

The proposed plan as regards community and cultural facilities is completely inadequate. In 1987, the Mission Bay plan, the community, cultural and recreational facilities accounted for approximately ten acres of land. Out of the approximate 300 acres on the site, this was about three percent of the total development.

It's unfortunate that the developer proposed even less than three percent -- I think at last count it was even less than one percent the last time I talked to him -- even though two years ago in this very room he proposed and promised to equal or surpass the numbers in the best neighborhoods in San Francisco.

In studying the neighborhood community services and cultural facilities report prepared by Carl Anthony and Associates for the Planning Department in 1986, his facts read as follows -- I should also add recreation, so it would be community, cultural and recreation percentages in some of [the] other neighborhoods around town. North Beach is six percent. Potrero Hill is eight percent. The Richmond District is eight percent. The Marina District is 15 percent. South of Market is two percent.

I mention South of Market because it is such an extremely low figure, and it's significant, as it is clear that the eastern waterfront hardly has an excess of resources with which to supplement the plan inadequacy at Mission Bay. . . .

This new community deserves its own facilities, not only for the prospective 22,000 workers and its 15,000 residents, but also to enhance San Francisco and to not further tax the overstretched capabilities of other neighborhoods. (Tom Murray, Potrero League of Active Neighbors and the Mission Bay Clearinghouse)

Response

Community centers and other related community and cultural facilities, including churches, could be included in Mission Bay. As a Program EIR, the Mission Bay EIR, as stated on p. IV.1 of Volume Two, Chapter IV. Study Approach and Organization, provides "an overall context in which to consider decisions made for future, more-detailed levels of project implementation, as well as providing a broad area-wide analysis for planning purposes."

Mission Bay Alternatives A and B, as discussed below, include land uses designated for community facilities, and could also accommodate community center structures housing a range of services as part of open space / recreation areas (see Mitigation Measure D.15 on p. VI.D.119 of Volume Two). Both Alternatives A and B include land designated for community facilities at multiple locations; Alternative A, totaling 2.4 acres near Third/Fourth/Mission Rock Streets, and at two locations near the Central Square (see Figure V.1 on p. V.12 of Volume Two, Chapter V. The EIR Alternatives and Approval Process); and Alternative B, totaling 5.6 acres, also near Third/Fourth/Mission Rock Streets (see Figure V.2 on p. V.14 of Volume Two).

In addition, Alternative A open space areas OS-1, OS-3 and OS-7, shown in Figure VI.D.6 on p. VI.D.62, and Alternative B open space areas

OS-5, OS-6 and OS-9, shown in Figure VI.D.7 on p. VI.D.63, would include active open space uses. As noted in note /a/ of Table VI.D.12 on p. VI.D.68, and in note /b/ of Table VI.D.16 on p. VI.D.79, those areas could accommodate "recreation buildings with multipurpose rooms and assembly rooms and gyms that could be used for cultural activities." Residential and commercial uses in other areas of Mission Bay could also incorporate cultural facilities.

A community services / cultural facilities special study prepared for the Mission Bay Plan discusses needs for such facilities, including those for police, firefighters, child care, cultural activities, indoor recreation, health care, and social services, as well as schools, churches, libraries, and neighborhood meeting facilities.^{1/} That study looked at the provision of these services in the surrounding area to identify and analyze potential needs generated by Mission Bay development. The recommendations in the study, along with subsequent planning analysis, would assist during the development agreement process in determining the types of community and cultural activities that would locate in Mission Bay.

Two new variants (Variants 11 and 12) are analyzed in this document (see XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and XV.P.27-XV.P.46). Both identify several community and cultural facilities that would be located throughout the Project Area. In Variant 11 (EIR Hearing Proposal), those include theaters, senior centers, health center, community art gallery, cultural center, and library, as well as a school site and police/fire/emergency facilities. Live/work areas are also identified in this variant that would be suited to artist/artisan space. In Variant 12 (Development Agreement Application), a senior center and undefined cultural uses are added to community facilities uses and a school site is designated.

The following is added after the third sentence in the first paragraph under "Community Facilities" on p. V.6 of Volume Two, Chapter V. The EIR Alternatives and Approval Process:

- While not specifically called out in the analysis, other cultural and community services, such as community or senior centers, would also fall within this use category.

Comment

There is a real need for integrating the Project community resources with those existing or

planned for nearby other neighborhoods. In the public hearings we proposed that a Fort Mason-like cultural resource be developed in unused former industrial buildings at the nearby 20th and Illinois shipyard. This is not mentioned anywhere in the Draft EIR, or is the idea of using any resource outside of the Project other than the Potrero Branch Library and a nearby fire station. It is clear that this area must be revisited with a goal this time of seriously developing extended community and cultural resources, while promoting the integration of the Project into the neighborhood fabric of the city. (Richard H. Moss, Potrero Boosters and Merchants Association)

Response

This EIR analyzes, at a program level of detail, impacts of the Mission Bay development; the 20th and Illinois Streets shipyard is not part of the Project Area. No application for a cultural resource center is on file at the Department of City Planning, so it would be misleading for the EIR to assume such a center would be built. The EIR does identify existing facilities in surrounding Nearby Areas to provide a context for the Mission Bay analysis. However, a detailed evaluation of community resources outside Mission Bay would be the basis for a separate planning and environmental review effort.

CHILD CARE FACILITIES

Comments

The discussion omits evaluation of child care resources and service demand in surrounding communities, especially non-market-rate publicly subsidized programs provided for lower income families. These programs need to be inventoried, and compared to estimated needs. . . .

The DEIR fails to evaluate publicly subsidized child care program impacts. Similarly based on the project's population/income projections, child care needs for Mission Bay residents need to be estimated, especially lower-income families. If provided on-site, building area requirements need to be estimated. (John Elberling, San Franciscans for Reasonable Growth)

The Mission Bay project presents an unparalleled opportunity to respond to the critical need in this city for child care, particularly affordable infant and school age child care. . . . [W]e are very distressed that it [the Department of City

Planning] has not seen fit to incorporate discussion of child care in the Community Services section of the Draft EIR. It is astonishing that despite the hiring of a consultant to conduct [the Mission Bay] community services special study, multiple discussions with numerous individuals concerned with child care, previous discussion of child care in the Mission Bay Plan and the inclusion of an entire section on community services in the draft EIR, child care is not mentioned once in all of the draft EIR.

For too long, Planning Staff have tried to say that child care is not something that they need to deal with in an EIR. Yet, child care is being addressed in EIRs [in] Berkeley. . . . [I]t makes little sense to incorporate child care concerns in other planning documents and then ignore it in the EIR, as has been the case with Mission Bay.

At the very least, since the EIR addresses the need for schools generated by the various alternatives and how such needs can be mitigated, and the school district provides child care, the EIR is obliged to ask the school district about the child care demand that will be generated by the Mission Bay Project and whether the school district will be able to accommodate any increased demand for its child care services. If the school district will not be able to meet any increased demand because of a lack of facilities or resources, then mitigating alternatives must be discussed. (Abby Cohen, Child Care Law Center)

The members of the Mayor's Office of Child Care Advisory Council would like to address our concerns that the Mission Bay Draft EIR does not incorporate discussion of child care services in the Community Services section.

. . . [In November 1987,] we learned that the department's summary of proposed uses included some provision for child care facilities although we expressed our concern with the phase-in, affordability and development of these facilities within the overall project. . . .

. . . However, we are extremely concerned that the department has not addressed a child care agenda in the Draft EIR, Community Services section. Also, it seems to us inconsistent to not incorporate child care in the EIR once it has been addressed in other planning documents and special studies prepared for Mission Bay.

Mission Bay represents San Francisco's premier opportunity for developing new child care facilities in the most appropriate of settings, e.g., a new residential development. Research shows that most families prefer child care services

located near their home. There are a number of new residential and mixed use developments in California where child care facilities have been successfully incorporated into the planning, design and construction of the projects, enhancing the overall marketability of the housing stock and attracting tenants to the commercial phase of the development. . . .

There are at least two areas in the Draft EIR for Mission Bay where the need for child care facilities and plans to respond to these needs must be addressed: school facilities and open space. The Board of Education heard a resolution in 1986 to create a Unified Child Care Policy for the school district that "child care and child development programs shall be an integral part of the elementary school program in the District and that as space becomes available, these programs shall be offered at every school." Since the EIR addresses the need for schools generated by various alternatives and since the school district already provides child care services, it seems logical that the EIR should also investigate the child care demand generated by Mission Bay and whether the District can accommodate this demand without new facilities.

With regard to open space issues addressed in the EIR, it is crucial to designate sufficient outdoor space adjacent to needed child care facilities which are required by state regulation to have 75 sq. feet of outdoor space per child. The section on recreation and parks does not address this issue, nor does it discuss consideration of licensable indoor space in any community/recreation buildings constructed within the Mission Bay development.

We urge you to address the planning for child care issues noted above in your Draft EIR for Mission Bay. . . .

Child care needs must be considered and realistically planned for at this point in the planning and development stage of Mission Bay, preferably at the conceptual stage when "pencilling out" of the overall project occurs. Early, thorough consideration of the development strategy, site selection, facility design and construction will result in maximum benefit to all parties involved - city government, developer, tenants, residents, child care operators and consumers.

Already in San Francisco there are licensed child care spaces for only about half of the working families that need care for their children in the community. Given this existing situation, it seems unlikely that the need for licensed, quality

child care generated by both the residential and office/commercial development in Mission Bay could be met within the city's existing arena of services. At the very least, these issues need to be investigated and discussed in the Draft EIR for Mission Bay both to ensure adequate, licensable space for child care facilities and to ensure that the child care needs of families that live and work in the development are met. (Merle Lawrence, Mayor's Office of Child Care Advisory Council)

Has anyone found a discussion of child care services and facilities to be developed in the Project?

. . . [T]here is no discussion anywhere here of child care, certainly a pretty key issue in my mind. . . . (Richard Moss, Potrero Boosters and Merchants Association)

Response

The demand for child care in San Francisco has emerged within the last few years as a planning issue. Further research and analysis will be required in order to identify new approaches for producing affordable programs to meet the growing demand for child care services. Because provision of child care services involves consideration of a broad scope of variables (e.g., social, economic and cultural aspects within a community), it is regarded as a planning issue, not an environmental impact issue subject to the provision of the California Environmental Quality Act (CEQA). This interpretation was upheld in a recent State Court of Appeal decision, San Franciscans for Reasonable Growth et. al v. City & County of San Francisco [209 Cal. App. 1502, 1516 (1989)].

The importance of this issue has been recognized, however. As part of adopting the Downtown Plan in 1985, the City Planning Code was amended to incorporate Section 314, "Child Care Requirements for Office and Hotel Development Projects."

Section 314 requires developer and employers to provide space for child care facilities in development of new office and hotel projects containing 50,000 square feet or more, or pay an in-lieu fee to the City's Affordable Child Care Fund. Those provisions would thus apply to office and hotel development in Mission Bay. The space provided must be in a ratio of 0.01 square foot of child care space per square foot of hotel or office space, or a minimum of 2,000 square feet, whichever is greater. The space may be within the project, or developers

may (in conjunction with developers of other projects subject to Section 314 within one-half mile of another) provide a single child care facility on the site of one of the projects. The site may be within one mile of the projects, if the child care site is reasonably accessible by public transportation or transportation is provided by the sponsor. The space, in all cases above, must be provided rent-free to a non-profit child care provider. The code also requires designated space be licensable; consequently, provisions of California state law relating to licensing of child care facilities would also be applicable. These state requirements include provision of indoor space on the ground floor (35 square feet per child), along with suitable, adjacent outdoor space (75 square feet per child). Section 314 would apply to office and hotel development in Mission Bay. Alternatively, the developer may contribute \$1.00 per square foot of office and hotel floor area.

While Section 314 itself is an innovative program for responding to child care needs, other planning efforts are under way. The Mayor's Office, in conjunction with the Department of City Planning; the Child Care Law Center (a non-profit organization) and a multitude of City and community groups have joined forces with the objective of developing a comprehensive plan containing a full program of implementing strategies to increase child care services in the City. It is anticipated, ultimately, that such a plan would be adopted as an Element of the City's Master Plan. If funding for this effort can be secured, this work would complement a project currently under way with State Department of Education grant funds to gather and develop data that document the type and extent of child care needs in San Francisco.

The San Francisco Unified School District (SFUSD) runs a subsidized child care program, funded by grants from the State Department of Education, for low-income working parents. The SFUSD operates about 30 centers, mainly in school buildings, that accommodate about 4,000 children; about half of the children are school age (K-5 grades) and half are nursery-school age (two years and nine months to four years). Another 2,000 children are on the waiting list for space in the centers. Although the budget has not grown, enrollment has risen through the addition to the system of several tuition-based centers for higher-income parents. The SFUSD also rents space in school buildings to other organizations that run child care programs.

Although not required under CEQA, the Mission Bay Draft EIR is revised for purposes of

information to acknowledge the implications for child care generated by development in Mission Bay. The following is added after the last paragraph on p. VI.D.51 in Volume Two, beginning with a new heading:

- **Child Care**

(The following discussion is presented for informational purposes only, as it does not pertain to physical environment impacts subject to the provisions of CEQA/120a/)

The projected increases in student and pre-school population combined with the growing number of working parents (including working single parents) would increase the need for child care services. Surveys and current requests for referral indicate there is a shortage of child care programs. The need for child care can be broken into three general categories: near residential areas, near work sites, and on commute routes between home and work.

San Francisco currently requires the provision of child care facilities or payment of an in-lieu fee for office and hotel development projects. This requirement, embodied in Section 314 of the City Planning Code, was legislated as part of the adoption of the Downtown Plan. Since Section 314 applies citywide, any office and hotel development eventually approved for Mission Bay would be subject to the same provision, which requires 1% of office and hotel floor area (assuming the total floor area in each development exceeds 50,000 square feet) to be devoted to child care facilities that meet all applicable state licensing requirements. Alternatively, the code allows an in-lieu fee of \$1.00 per square foot of floor area.

Since development in Mission Bay involves a variety of uses other than office and hotel, it is not possible to quantify the potential demand generated for child care services at this time. Different consumers have different needs. Determining child care needs for infants versus toddlers or older children, for full-time, part-time or after-school care is affected by social, economic and cultural circumstances that cannot be reliably identified at this time. These issues are being addressed in a separate planning effort currently under way to document the type and extent of child care needs in San Francisco, with the ultimate goal of producing a comprehensive child care plan, complete with a program of implementation strategies.

A new note, /120a/, is added to p. VI.D.132 to follow note /120/:

- /120a/ The State Court of Appeal decision published for San Franciscans for Reasonable Growth et. al v. City and County of San Francisco [209 Cal. App. 1502, 1516 (1989)] upheld the City in determining that child care issues are not a physical environmental impact that require analysis in CEQA documents.

The following new paragraph is added to p. II.38 of Volume One, after the first full paragraph in the left-hand column:

- The Mission Bay population, combined with the growing number of working parents, would increase the need for child care services. San Francisco currently requires that office and hotel projects provide child care facilities or pay in-lieu fees. That requirement would apply to Mission Bay. Child care issues also are being considered in a separate planning effort to address child care needs in San Francisco.

Planning for child care facilities is included in the array of social and economic programs being negotiated for Mission Bay. It is in that forum that program details (e.g., location of facilities, funding) are being addressed.

INFRASTRUCTURE CAPACITY AND REQUIREMENTS

Comment

During these times of water rationing, care should be taken not to over build. There must be sufficient water for everyone. There should also be adequate sewage capacity. (Babette Drefke, Potrero Boosters and Merchants Association)

Response

As stated on p. VI.D.100 and p. VI.D.105 of Volume Two, existing and planned water and sewage system capacities would meet the increased demand generated in the Project Area. This would include a projected 5% increase in average daily water demand over current demand levels citywide. As noted on p. VI.D.101, the City's water conservation program goal is to reduce consumption by 7.5% by 1997. Pages VI.D.119-VI.D.220 of Volume Two include mitigation measures identified to implement water conservation features in Mission Bay, such as use of low-water-use landscape materials and water-conserving appliances.

As noted on p. VI.D.107 of Volume Two, sewer and sewage treatment capacity are expected to be adequate to serve Mission Bay at build-out under all Alternatives.

Comment

... In case of fire, ladders can only reach to the seventh floor.... (Babette Drefke, Potrero Boosters and Merchants Association)

Response

The EIR acknowledges that it is more difficult for firefighters to reach upper floors in mid-rise buildings. Fire truck-company ladders are about 100 feet long and cannot effectively reach upper floors. However, as noted on p. VI.D.34 of Volume Two, new structures in Mission Bay would comply with Life Safety Provisions of the San Francisco Building Code, 1979, as amended; any future amendments would apply as new development proceeds in Mission Bay. The Code's requirements for structures over 75 feet in height include provisions for automatic sprinklers, smoke detection, alarm and communications systems, and emergency elevator operations, as well as other design and construction requirements for life safety related to fire safety in mid-rise and high-rise buildings.

As noted on p. VI.D.123 of Volume Two, building plans would be reviewed and inspections made to ensure compliance with these requirements.

SCHOOL FACILITIES AND REQUIREMENTS

Comments

Discussion of existing SFUSD resources, page VI.D.9. [and following pages], in the general area does not provide enough information on current plans for the future of [these] schools. Particularly, Bessie Carmichael School in the South of Market would appear to require reconstruction to remain in service much longer, since it was built as a wood frame 'temporary' facility during World War II. If not rebuilt, there would be further demand for new school facilities in addition to the new Mission Bay population. The intentions of SFUSD regarding improvement / expansion / replacement of all the schools inventoried should be stated in the DEIR. (John Elberling, San Franciscans for Reasonable Growth)

Within the Project the "tail" of the rail right-of-way wags the dog of community service and infrastructure decisions. Nowhere is this more evident than in the discussion of a needed elementary school site near 16th and Owens streets (VI.D.61). The Draft EIR concludes that this would be a good site but for the undesirable need to have students cross the tracks on 16th street. There is no mention of the alternative of using the school site and undergrounding the tracks. (Richard H. Moss, Potrero Boosters and Merchants Association)

The EIR itself says: Even without Mission Bay, school enrollment citywide and in nearby areas is projected to exceed capacity. I find it myself, in fact, rather startling that the school district itself has not really participated more fully in terms of ensuring that the need for schools is met through this EIR. (Abby Cohen, Child Care Law Center)

Response

The SFUSD does not have plans to close Bessie Carmichael Elementary School, which currently operates with excess capacity (see Table XIV.D.24 on p. XIV.D.27 of Volume Three, Appendix D). The district recognizes the need for improvements to this school, and rehabilitation will be undertaken with state and local (Proposition A) funding./2/

The SFUSD was consulted in the preparation of the EIR (see Volume Two, notes /40/-/44/ on pp. VI.D.124-VI.D.125, and notes /112/-/114/, /118/, and /120/ on pp. VI.D.131-VI.D.132) and has participated in preliminary planning efforts for Mission Bay with the project sponsor and the Department of City Planning. SFUSD staff indicate a need to provide safe crossing for school access./2/

Variant 9 (CalTrain Station Location), on pp. VIII.51-VIII.54 of Volume Two, Chapter VII. Variations on Alternatives, discusses a variant that would underground CalTrain tracks between about 16th Street and a station at Fourth and King Streets, and would provide a safer crossing for pedestrians between Mission Bay and areas west of Seventh Street.

In addition, two new variants have been analyzed (see Variants 11 and 12 in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and XV.P.27-XV.P.46, respectively) that identify a school site at Owens and Hooper Streets, south of China Basin Channel. Variant 11 (EIR Hearing Proposal) would include undergrounding the existing CalTrain tracks from 16th Street to the Fourth and Townsend Street CalTrain station.

Variant 12 (Development Agreement Application) would reserve an underground right-of-way from a station at Seventh and Channel for a future extension of CalTrain service to downtown, if a downtown extension is decided by the Peninsula Commute Service Joint Powers Board. The EIR analysis does not assume it is constructed directly as part of the Variant 12 land use program.

PUBLIC HEALTH SERVICES AND REQUIREMENTS

Comment

In general, the DEIR discussion of public health needs of the Mission Bay population is grossly inadequate for planning purposes because it is not based on critical project demographic parameters that will determine the actual need for City-funded health services.

First, the variation in projected household incomes of the resident populations, depending on the mix of housing affordability finally approved for the project, will affect how many residents will utilize public health facilities oriented to lower-income individuals rather than 'market-rate' proprietary health services. A substantial component of affordable housing will lead to an increased demand for City public health services of all kinds due to Mission Bay -- outpatient services, such as those provided by the South of Market Health Clinic, mental health services, also sited now in the South of Market, and hospital services at SF General Hospital.

Second, the variation in projected age groups will also affect the profile of health service needs, with elderly and disabled residents of Mission Bay certainly requiring a level of service much greater than the general population. The Appendix projects a population of 64+ in the year 2020 of more than 2,000, but does not discuss the service needs of this large cohort, especially lower income individuals that will comprise a higher percentage of this group than the general population.

The DEIR needs to provide a full assessment of such matters. The projected age breakdown data needs to be presented in the main body of the EIR, not just the appendix; actually it should be in the Summary Vol. I -- this is important community planning information.

Thereupon, in particular the DEIR needs to assess impacts of the demand for City-funded health services on the existing nearby facilities,

including the South of Market Health Clinic. Since the DEIR notes in the Setting discussion that [the] Clinic now operates in excess of its capacity, the DEIR should identify a serious problem which would result if lower income Mission Bay residents are added to its service load, both family and elderly. For the elderly in particular, who are largely transit-dependent, the problem of access to both the South of Market Clinic and SF General Hospital needs discussion, since none of the transit routes proposed for Mission [Bay] would provide direct access to these important off-site community services. City-funded paratransit services are already insufficient for such purposes, which the DEIR should note, and hence any Mission Bay population needs will impact such services further....

The mitigation measure proposing expansion of the South of Market Clinic is welcome, but the specified site may not be available, nor the best location. Rather, the mitigation should simply propose expansion of the Clinic to a new facility in the South of Market readily accessible to Mission Bay via public transit.

The lack of any proposed direct MUNI route between Mission Bay and SF General Hospital is a major health service impact problem. A mitigation measure to remedy this is needed, either revising a MUNI route to provide such service, or to provide paratransit services specifically for Mission Bay residents through a specified funding mechanism. Otherwise, a whole new isolated population will be created in Mission Bay with regard to access to public health services for the lower income, especially the transit-dependent elderly and disabled. (John Elberling, San Franciscans for Reasonable Growth)

Response

The estimated public health service requirements (primarily paramedic needs and mental health services) for Mission Bay were based on population scenarios, including age and household size, identified in Volume Two, VI.C. Housing and Population, and applied to the land use program for each Alternative. The San Francisco demand factors used to project these public health service needs consider the overall population scenarios (e.g., for each Alternative).

The population scenarios primarily reflect overall population and age cohort data, based on State Department of Finance projections. Those projections do not include breakdowns of sex or

income, for example, or other characteristics that would allow the detailed projection of public health service requirements requested by the commenter. Similarly, the household size scenarios in the EIR were based on data available for San Francisco and do not project future relationships between household size, family composition and income.

The population, age and household size assumptions used in the EIR scenarios are consistent for all Alternatives, to allow a comparison of the major population-related effects of each Alternative. Assumptions that may change over time, such as family size, income and medical needs (disabled, chronically ill, etc.) cannot be projected over a 30-year period. Such fine-grained information would be necessary to provide the information requested by the commenter.

Note /134/ on p. VI.D.134 of Volume Two cites information provided by the Department of Public Health that the Mission Bay Alternatives would increase demands on public health services, but that the demand is difficult to estimate:

It is difficult to estimate the number of Mission Bay residents who would seek health care from private physicians rather than using DPH services. However, to illustrate the potential for further overcrowding of the SMHC, DPH has provided the following figures: If one-half of the 18,667 residents under Alternative B at 2020 sought care at the SMHC, at least 20 additional full-time physicians would be needed, with a commensurate addition of nursing, pharmacy and other support staff. An additional 10 to 15 dentists would be needed.

Finally, detailed projections of Mission Bay public health needs would have to be related to overall citywide needs and services which also cannot be estimated over a 30-year period.

Mitigation Measure D.17 on p. VI.D.119 of Volume Two, which calls for expanding the South of Market Health Center, identified the Seventh and Brannan Streets site because it is under consideration for acquisition by the Department of Public Health. The measure was not intended to exclude consideration of other potential sites if that site is not acquired. Mitigation Measure D.17 is thus revised to state:

- **Expand the South of Market Health Center to a new facility at the Seventh and Brannan Streets site, now under consideration for acquisition by DPH, or to another transit-**

accessible site that could accommodate the expanded services, to serve health care needs of Project Area and Nearby Area residents.

On p. II.40 of Volume One, the second sentence under "Public Health," at the bottom of the left-hand column, is revised to state:

- **Population and employment growth in the Project Area would also increase the need for other Department of Public Health centers and programs.**

The EIR identifies several MUNI potential service extensions and re-routings to serve the Mission Bay Project Area. While those service changes would not provide a direct MUNI route between Mission Bay and San Francisco General Hospital, the EIR states, on p. VI.E.66 of Volume Two, VI.E. Transportation, that these routes are not intended to be MUNI's final routings. Additional assessment would be conducted by MUNI; MUNI routes and schedules must be approved by the San Francisco Public Utilities Commission and Board of Supervisors. Currently, the 48-QUINTARA line, which provides service to San Francisco General Hospital, terminates south of the Mission Bay Project Area at Third Street near 20th Street. MUNI patrons could reach that line with one transfer from the 15-THIRD line. Mission Bay Project Area population could also increase the demand for paratransit services, but the extent of this demand cannot be projected with certainty.

COMMUNITY SERVICE PLANNING

Comments

The best mitigation approach to encompass all of the above would be to require the formulation of a "Mission Bay Community Plan" which would plan in detail for the provision of the full spectrum of publicly-funded neighborhood community services (not infrastructure) needed by Mission Bay residents, especially lower-income residents, that would include a land / building use program, a facilities development program, a step-by-step implementation plan, regulations applicable to developers, a capital funding program, and an on-going dedicated funding stream to at least partially support the programs.

At this point, as evidenced by its DEIR, the Mission Bay project is following the same faulty course of other large scale projects' planning which treats comprehensive, insightful community service planning as an afterthought

which is not to be considered one of the major form-giving considerations for the project. This is very wrong, very bad planning, and accounts for the ultimate deficiencies of many urban developments. Pursuing the last proposed mitigation, development of a comprehensive Community Plan, will be the key to the future success of a Mission Bay Neighborhood. Without it, the Department of City Planning will fail disgracefully in meeting its responsibilities. (John Elberling, San Franciscans for Reasonable Growth)

Finally, just one last point. I think that it's important that we not get ourselves into a situation where all community services are lumped together. The development agreement simply reads "X" amount of space for community services to be fought out between all the different community service groups and let them worry about it later down the line. I think we need to address it in a public forum and make sure that there is adequate community services for all the different types of services and not leave it to the various groups to have to fight it out with insufficient resources or space. (Abby Cohen, Child Care Law Center)

Response

The Comments are acknowledged. The Comments are not directed to the content and analysis of the EIR; rather, they address the Mission Bay planning process.

The community services / cultural facilities special study was prepared to assist the Department of City Planning establish initial recommendations and priorities for community services for Mission Bay.^{1/} (See also the Response on p. XV.D.19 for further discussion.) Together with projected demand for services presented in the EIR, the information establishes a basis from which a community facilities plan may emerge, or detailed negotiations on community service programs may be conducted between the City and project sponsor.

Variant 11 (EIR Hearing Proposal) and Variant 12 (Development Agreement Application), described in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and XV.P.27-XV.P.46, respectively, also include additional information on community facilities plans. Additional Comments on the Mission Bay planning process are summarized in XV.S. Summary of Testimony Related to the Mission Bay Plan.

NOTES - Community Services and Infrastructure

- /1/ San Francisco Department of City Planning, Community Services/Cultural Facilities: A Special Study for the Mission Bay Plan, prepared by Carl Anthony and Associates, September 1986.
- /2/ Lawrence Jacobson, San Francisco Public School District, Facilities Planning, telephone conversation, April 27, 1989.

STAFF-INITIATED TEXT CHANGES FOR COMMUNITY SERVICES AND INFRASTRUCTURE

The following staff-initiated revisions are made to VI.D. Community Services and Infrastructure, in Volume Two of the Mission Bay Draft EIR.

A note reference mark is added to the end of the first sentence in the first paragraph on p. VI.D.32 under "Service Demand Issues," as follows:

- The projected demands for Fire Department service required to maintain the current level of fire protection in the Mission Bay Project Area for each of the Alternatives for both analysis years would result in increases in fire suppression staffing, equipment and station space needs./94/

The reference mark for note /94/ is deleted from the end of the first sentence, second paragraph under "Service Demand Issues" on p. VI.D.32.

A page number is added to the first sentence of note /a/ in Table VI.D.7 on p. VI.D.52, as follows:

- /a/ Estimates of Project Area public school students are based on estimates of total school-aged children in the Project Area in the year 2000 (see Appendix D., Table XIV.D.27, p. XIV.D.31).

On p. VI.D.83, the first sentence under "Alternative B" is revised to state:

- As summarized in Table VLD.15, p. VLD.77, at build-out/2020, open space would total 102.4 acres (82.1 acres of parkland and wetlands; 20.3 acres associated with other uses and China Basin Channel), an addition of 58.8 acres to the open space that would be provided by the year 2000.

A page number is added to the first sentence of note /b/ in Table VI.D.20 on p. VI.D.96, as follows:

- /b/ Total ambulance calls include Code 1, 2 and 3 calls (see p. VLD.18 for definitions of code calls).

On p. VI.D.108, the reference mark for note /148/ is deleted after the heading "Solid Waste Disposal" and replaced with a reference mark for note /149/. Similarly, the reference to note /148/ at the end of the first paragraph, last sentence, under "2000" is changed to /149/.

On p. VI.D.112, two page numbers are added to the first paragraph, sixth sentence, under "Project Area Roadway Network and Sidewalks and Pedestrian Areas," as follows:

- The circulation network would also include sidewalks and pedestrian routes in open space areas (see Recreation and Parks, p. VLD.65 and p. VLD.76).

Mitigation Measure D.2, on p. VI.D.115, is revised to state:

- Alternative A - Rehabilitate closed Station 30 or construct a new station adjacent to it to house both an engine and a truck company. That would reduce response time to the Project Area, Potrero Hill and Showplace Square. An estimated 9,150 square feet of building space (7,050 square feet of existing building space plus about 2,100 square feet of new space) would be required to house both companies./153/

The text of note /153/, on p. VI.D.136, is deleted and replaced with the following:

- /153/ Assistant Chief James Lynch, San Francisco Fire Department, telephone conversation, March 6, 1990.

On p. VI.D.116, the second sentence of Mitigation Measure D.5 is revised to state:

- The location and number of the cisterns and whether the water would be potable would be determined by the San Francisco Fire Department and Department of Public Works.

The first sentence of Mitigation Measure D.6, also on p. VI.D.116, is revised to state:

- To compensate for building in an "infirm" landfill area where the ground is susceptible to possible liquefaction and ruptured water mains during an earthquake, provide a suction hydrant system in the Project Area consisting of nylon-neoprene hoses and portable bronze fire hydrants that can be deployed into

interlocking grids linking water sources (e.g., working water mains, cisterns, or suction connectors leading to China Basin Channel or the Bay)./154/

Mitigation Measure D.9, on p. VI.D.117, is revised to state:

- Alternatives A,B - Provide approximately 12,000 square feet of police facilities in the Project Area to accommodate increased police staffing needs, and an additional 1,000 square feet of space for a police/community conference room. Provide approximately 13,000 square feet for about 40 parking spaces for staff and visitors. If a new facility is built to support an increased police force, the addition of commissioned officers (i.e., captain, lieutenant), janitorial and other station operations personnel would be required./155a/

The following new note, /155a/, is added after note /155/ on p. VI.D.136:

- /155a/ Lieutenant Thomas Suttmeier, San Francisco Police Department, telephone conversation, April 4, 1990.

In the partial paragraph at the top of p. VI.D.118, the first complete sentence is revised to state:

- The median size for an elementary school site in San Francisco is 1 to 1.2 acres, a middle school three to four acres, a high school 10 to 20 acres, and a smaller alternative high school four acres.

Mitigation Measure D.21 on p. VI.D.120 is revised to state:

- To reduce disruption of streets for multiple excavation, install all sewer, water and other utility lines during or before street construction of each phase of the project./158/

The following is added to the end of note /3/ on p. VI.D.121:

- Deputy Chief Gerald Cullen, interview, August 21, 1986, and San Francisco Fire Department Annual Report, 1985-1986.

The following is added to the end of note /4/ on p. VI.D.121 and note /14/ on p. VI.D.122:

- Deputy Chief Gerald Cullen, interview, August 21, 1986.

The following is added to the end of note /7/ on p. VI.D.121:

- Address list provided by San Francisco Fire Department, Management Services.

The following is added to the end of note /16/ on p. VI.D.22 and note /25/ on p. VI.D.23:

- San Francisco Fire Department Annual Report, 1985-1986.

Note /27/, on p. VI.D.123, is revised, as follows. Are We Prepared?: A Study of San Francisco Police Department Facilities is underlined in the EIR. The underline beneath this title in the following change therefore does not indicate a revision.

- /27/ Service at the Southern and Potrero District Stations is considered impaired due to their poor physical condition. Are We Prepared?: A Study of San Francisco Police Department Facilities, San Francisco Police Department, 1987 and San Francisco Police Department, Planning Division, San Francisco Police Facilities Plan: A Proposal for Bond Issue, April 24, 1987.

The following is added to the end of note /31/ on p. VI.D.124:

- Lieutenant Thomas W. Suttmeier, Commanding Officer, Planning Division, San Francisco Police Department, interview, August 29, 1986.

The following is added to the end of note /32/ on p. VI.D.124:

- Office of the Police Commission, Stars in Action: Serving Our City, San Francisco Police Department Annual Report, 1984-1985.

The date is changed in note /120/ on p. VI.D.132, as follows:

- /120/ Lawrence Jacobson, Property Manager, San Francisco Unified School District, interview, May 26, 1987.

E. TRANSPORTATION

TRANSPORTATION SERVICE AND CAPACITY ASSUMPTIONS

Comments

So far, it appears to me, I get the impression that they are making the same sort of basic assumptions, the same projections, the same old philosophy that's gotten us into this awful transportation mess we are in in the entire Bay Area. And I am afraid that unless there is some redirection given to this, that that is the way it's going to wind up with Mission Bay. (Norman Rolfe, San Francisco Tomorrow)

Transportation Demand/Capacity Projections. The DEIR uses an extremely conservative analytical technique in projecting the available transportation capacity, but at the same time assumes a steadily increasing demand. The transportation supply was held steady for years 2000 to 2020, except for what is currently projected as "reasonable assured capacity" increases for the year 2000. However, transportation demand [growth in] years 1985 to 2020 [is] based upon population growth, regional growth, greater usage and the like. This analysis -- flat supply and increasing demand -- leads to excess stress on the infrastructure and negative impacts on the transportation system especially by the year 2020 (see DEIR, Vol. 1, Chap. II at [p.II.] 42 & [p.II.] 49; Vol. 2, Chap. [VI.E, pp.] VI.E. 51, 58-59; Vol. 3, Chap. [XIV.E, pp.] XIV.E.21,28).

While that analysis certainly presents the most adverse result, the DEIR should also reflect the recent regional consensus on rail and BART extensions; the one-half cent sales tax approvals in Alameda, San Mateo, Santa Clara and Contra Costa Counties; and the recently approved increase in Bay Area bridge tolls. In the words of William Hein, Deputy Executive Director of the Metropolitan Transportation Commission, these recent actions constitute a "major local commitment to transportation." Among other projected developments is the addition of 30 miles and 10 stations to BART, highway improvements, construction of two new bridges, and the improvement of three existing bridges. (See San Francisco Chronicle, November 10, 1988 at page A-12, copy enclosed.)

In addition, the DEIR should take into account that innovations and new technologies in transportation and transit will occur in the next 30 years, just as they have in the last 30 years. In the last 30 years, major transportation systems

have been developed in the Bay Area, specifically: BART, Muni Metro, Golden Gate Transit, AC Transit, Samtrans, CalTrain, Santa Clara and other outlying counties' transit districts, I-280, I-80, I-380, I-480, I-580, I-680, I-780, I-880, I-980, Highway 24, and the San Mateo, Dumbarton, Benicia, and Carquinez bridges. It is not over-optimistic to assume that similar dramatic improvements will occur in the next 30 years. (James W. Augustino, Santa Fe Pacific Realty Co.)

Response

While the Comments are well taken, there are specific reasons for the transportation capacity assumptions used in the EIR analyses.

EIRs prepared in San Francisco customarily present a conservative scenario of projected impacts. That is, San Francisco EIRs are more likely to overestimate rather than underestimate impacts, in order to ensure the full array of impacts associated with a project are disclosed. Much of this is due to the fact that assumptions must be tested for their reasonableness before they can be incorporated into the analyses.

Although it is true the Bay Area (as well as the entire state) has seen dramatic changes in its transportation network in the past 30 years, that fact by itself does not provide a sufficient basis for assuming that magnitude of change would necessarily be replicated. Assumptions in EIR analyses must be based on a reasonable body of evidence that they would occur. As a result, the assumptions in the transportation analyses required much thought and consultation among experts.

Deriving assumptions about long-range transportation improvements is inherently difficult because the political and funding process for approving them operates in a short-term cycle. This process is discussed in some detail in the Technical Appendix for the transportation analyses (Volume Three, Appendix E). Annual funding decisions rely mostly on five-year plans prepared by each transportation agency; longer-term policy documents are not customarily prepared. As a result, it is not possible to know with certainty what kinds of improvements would be completed or under way in year 2000, let alone 2020. Thus, in order to identify what kinds of improvements were most likely if not certain, it was necessary to consult each transportation agency. The "reasonably assured" capacity increases identified for year 2000 EIR analyses are based on their intimate knowledge of adopted policies, priorities and funding forecasts.

XV. Summary of Comments and Responses

E. Transportation

With accelerating technological, social and economic change, the uncertainty associated with any long-range forecast of supply is probably higher than it was, say, in 1953 -- 35 years ago. A 1953 forecast of 1988 transportation supply conditions would have assumed freeways criss-crossing San Francisco; a double-decked Golden Gate Bridge; high-rise buildings with their own parking supplies; and a BART system encircling the Bay. Had the Mission Bay Draft EIR attempted its own 32-year forecast of transportation supply, the impact analysis would have been equally as speculative and of limited utility in identifying impacts.

For these reasons, VI.E. Transportation, in Volume Two of the EIR, made no attempt to forecast transportation supply 35 years into the future (between 1985 and 2020). While transportation supply will certainly change between years 2000 and 2020, 2020 impacts were assessed using the same "reasonably assured capacity" of the year 2000 impact analysis. (See p. VI.E.56 of Volume Two for the year 2000 supply criteria.) The EIR impact analysis for the year 2020 thus identifies the capacity needed to accommodate projected cumulative and Mission Bay demand, above the supply expected in the year 2000.

Since the time when the transportation improvement assumptions were identified, there have been new developments that indicate increased local support for transportation improvements, such as San Mateo County's half-cent sales tax increase and the passage of bridge toll increases. Though such responses are encouraging, as they reflect a growing local commitment to regional transportation issues, that in itself is not a sufficient basis for expecting greater transportation improvements than assumed in the analyses. If recent trends in the decline of federal and state funding for transportation projects continue in the future, such new funding sources will be needed in order to carry out improvements that have been in planning stages.

Comment

In Volume II, page VI.E.41, first paragraph, it should be noted that the Bay Bridge approaches are operating at a V/C ratio of 1.0 most of the day. This paragraph appears to imply that there is available capacity in the system; when, in fact, there isn't. Existing heavy congestion and long vehicle backups point out this fact. We suggest that lines two and three be revised to read, ". . . approaches are basically operating at capacity during the . . .".

There appears to be a conflict in the level of service definitions between page VI.E.41, paragraph four, Vol. II, "LOS E (V/C=0.93)" and page VI.E.40, Vol. II, next to last line ". . . of 0.9 to 0.95 (LOS D)." The page VI.E.40 data should be clarified. It does not agree with Volume III, page XIV.E.18, Table XIV.E.4. (Gary Adams, Caltrans, District 4)

Response

The text on pp. VI.E.40-VI.E.41 of Volume Two, beginning with the next-to-last sentence on p. VI.E.40, is revised to state:

- During the two-hour p.m. peak period, the eastbound lanes on the Bridge are operating at a volume-to-capacity ratio of 0.91 to 0.95 (LOS E). This level of service corresponds to conditions at or very near capacity, because there are virtually no usable gaps in the traffic stream. During the p.m. peak period, the average speed on the Bridge eastbound is about 35 mph, representing the condition of greatest throughput.^{/39/} That condition is achieved because the approaches to the Bridge are metering the traffic flow onto the Bridge. The approaches are basically operating at capacity during the p.m. peak period.

Comment

Page 139; Possible Transit Capacity Constraints, 1st paragraph, last sentence -- We would like to note that a reduction in the number of cars per train does not constitute a degradation of service if the demand does not warrant full length trains. Headways are the key to level of service in this case and will be maintained at the current 15 minute headway per route during the off-peak period. (Ward Belding, Bay Area Rapid Transit District)

Response

Under "Possible Transit Capacity Constraints," p. VI.E.139, first paragraph, the last sentence is revised to state:

- Other transit systems, such as BART, may also carry a large number of commuters during peak periods, and reduce the amount of service that they provide in off-peak hours in response to lower demand by reducing the number of cars per train, and operating fewer trains (than during the peak period).

Comment

Regarding Volume II, page VI.E.37, second paragraph, CalTrain provides, as a matter of current policy, a seat for every passenger. That means that cars are added as demand-to-capacity ratio approaches 1.0. The word "capacity" therefore, is misapplied to CalTrain in this context. (Gary Adams, Caltrans, District 4)

Response

At the time the transportation analysis for the EIR was being prepared, it was understood that the number of railcars/seats available for CalTrain did not represent an absolute ceiling of carrying capacity; Caltrans has the capability to add or reduce the number of cars or trains in response to ridership demand. However, for the purposes of standardizing terms and definitions to enumerate clearly the assumptions under which the analyses for all regional transit carriers were conducted, the term "capacity" was used. For most other public transit providers, there was an identifiable capacity that represented the maximum service that could be provided. The number of seats on CalTrain assumed to be available during the p.m. peak period in the EIR analysis is based on information provided by Caltrans staff. Whether Caltrans adds or subtracts cars to meet changing demand on CalTrain, the "capacity" applied in the analysis to define current service levels on p. VI.E.37 is consistent with the information that was provided. In addition, Caltrans' policy of providing a seat for every passenger has been used in the EIR as the basis for having the number of seats in service define capacity.

To provide clarification regarding the level of service assumed for future CalTrain service, the second full paragraph on p. VI.E.62 of Volume Two is revised, as follows:

- As a direct result of this assumption on the location of the San Francisco terminal, no increase in the number of trains providing peak-period, peak-direction CalTrain service is assumed for the impact analysis even though it is expected Caltrans would have unused railcars available for service in 2000. The level of service for CalTrain assumed in the impact analyses that follow (see Table VI.E.13, p. VLE.98) thus is not a true indication of actual capacity. This assumption is based on planning documents prepared for CalTrain indicating that the need for additional peak-period, peak-direction trains to be in service would not occur unless CalTrain service were extended to downtown San Francisco./50/

Comment

Page 212; Regional Transit - East Bay, 1st paragraph - Increasing BART's peak period capacity by 65% over 1985 levels would require running trains at 2.25-minute headways longer than the 60 minutes currently planned. To provide this capacity increase would also require the purchase of fifty more cars than are already on order. Under current BART plans, peak period service capacity (in terms of cars or seats) is projected to grow 55% over the 1985 level. (Ward Belding, Bay Area Rapid Transit District)

Response

In the second-to-last listed item on p. VI.E.212 of Volume Two, under "Regional Transit - East Bay," the following statement is added after the first sentence:

- This level of service would require the purchase of 50 more railcars than are already on order.

In order to ensure consistent understanding of future BART Transbay service increases in other sections of the analyses that address future transportation capacity in 2000, two other text revisions are proposed. The first involves text at the bottom of p. VI.E.57 and top of p. VI.E.58 of Volume Two. The indented statement at the bottom of p. VI.E.57 is revised to add the following sentence:

- This level of service would require the purchase of 50 more railcars than the 150 that are already on order.

The indented item at the top of p. VI.E.58 is revised to state:

- The addition of 150 new BART "C" cars which have already been ordered.

With these two clarifying revisions, it is necessary to reverse the order of the two indented statements such that the 150 BART car addition appears as the first item at the bottom of p.VI.E.57, followed by the statement on increased transbay BART frequencies and requirement for 50 additional BART cars.

The last text change necessary to clarify future transbay BART capacity is proposed for the second listed item on p. XIV.E.26 of Volume Three. The second sentence is revised to state:

- Those increases in Transbay capacity would occur because of deployment of 150 "C" cars

currently on order; the addition of 50 more BART cars; construction of the Daly City Turnback / Yard; and technological improvements in automatic train control, wayside train control and upgraded electrification included in BART's 5-Year Plan.

The above revisions are clarifying statements that do not change the transportation impacts analysis or any of its conclusions. The requirement for additional railcars is implicit in the projected transbay service levels assumptions for 2000 that were confirmed by BART for use in the Mission Bay EIR analyses.

Comment

Page 131; last sentence - BART's current load factor objective is 1.0 not 1.5. We think 1.5 is the limit beyond which people will not ride BART. BART's current average peak period load factor is approximately 1.25; down from 1.4 three years ago....

Page 215: Regional Transit, East Bay - As noted in Comment #4, BART's current load factor objective is 1.0, not 1.5. (Ward Belding, Bay Area Rapid Transit District)

Response

The commenter is correct in stating that BART's short-range objective was changed in July 1988 to achieve a load factor of 1.0. That objective was established in anticipation of placing into service a sufficient number of new "C" cars to schedule enough trains and cars per train to provide a seat for every passenger. However, when it became apparent to BART that delays in "C" car production would prevent BART from attaining this objective, the short-range objective reverted to the previous one of balancing loads among lines. BART is currently experiencing loads on its Transbay service of 1.31 persons per seat during the peak hour and 1.24 persons per seat during the peak cycle (which lasts over two hours).

For FY 90, the current proposal is to establish 1.15 as the load factor objective. That objective reflects the likely delivery rate and availability of new "C" cars./1/

For long-term planning, BART is indicating that 1.5 passengers per seat should be the maximum load level, because more overcrowding for extended distances would lead to losses in ridership. As a result, the Mission Bay analysis uses the 1.5 ratio as a threshold for

recommending mitigation. Since the ridership levels projected for 2000 in the Mission Bay EIR indicate the 1.5-passenger-per-seat threshold would be exceeded throughout the p.m. peak period, mitigation measures are identified in the EIR to reduce passenger crowding to 1.5 passengers per seat (see Mitigation Measure E.23, pp. VI.E.215-VI.E.216 of Volume Two).

Comment

Page XIV; Appendix E - Because level of service criteria for rail tend to be different than those for bus, you may consider developing a separate level of service range for rail. (Ward Belding, Bay Area Rapid Transit District)

Response

Consideration was given to the level of service standards that were used in the Mission Bay transportation analysis, since transit service to San Francisco is provided by rail (e.g., BART, CalTrain, MUNI Metro) as well as by bus vehicles (e.g., MUNI, AC Transit). Table XV.E.1 presents a comparison of the different levels of service standards identified for bus versus rail transit.

The decision to use the bus level of service standards for all transit impact analyses in the Mission Bay EIR was made based on the load factor objectives established by each transit operator. Load factor objectives, generally expressed in terms of passengers per seat, provide a measure by which passenger comfort levels for each carrier can be identified. When the ratio of passengers to seats per transit vehicle exceeds the load factor objective, passengers become more crowded together, thus resulting in lower (worse) levels of service.

Most of the transit operators serving San Francisco have adopted a load factor objective ranging from 1 to 1.25 passengers per seat. This includes BART, CalTrain and Golden Gate Transit buses, which have a one-passenger-per-seat objective, as well as SamTrans and AC Transit, with 1.25 passengers per seat. Even though some of the carriers operate rail vehicles rather than buses, there is not a large difference in the passenger loading objectives among them. As a result, there was not a strong argument for using two different sets of standards for defining passenger comfort levels of service.

As indicated in Table XV.E.1, the set of service standards for rail vehicles accommodates more

TABLE XV.E.1: LEVELS OF SERVICE FOR BUS/RAIL TRANSIT

Peak-Hour Level of Service	Bus Transit		Rail Transit	
	Passenger/Seat (Approximate)	ft. ² /Passenger (Approximate)	Passenger/Seat (Approximate)	ft. ² /Passenger (Approximate)
A	0.00 - 0.50	11.9 or more	0.00 - 0.65	15.4 or more
B	0.51 - 0.75	11.8 - 8.0	0.66 - 1.00	15.2 - 10.0
C	0.76 - 1.00	7.9 - 6.1	1.01 - 1.50	9.9 - 6.7
D	1.01 - 1.25	6.0 - 4.8	1.51 - 2.00	6.6 - 5.0
E (Scheduled Load)	1.26 - 1.50	4.7 - 4.0	2.01 - 3.00	4.9 - 3.3
F (Crush Load)	1.51 - 1.60	< 4.0	3.01 - 3.80	3.2 - 2.6

NOTE: Fifty percent standees reflects a load factor of 1.5 passengers per seat.

SOURCE: H.S. Levinson and W.R. Reilly, Interim Materials for Highway Capacity, Transportation Research Circular 212, Transportation Research Board, 1980, p. 74 for bus transit and p. 103 for rail transit.

passengers per seat before reaching low levels of service (E or F) than with the set of service standards for bus transit. Thus, for example, a 1.5-passenger-per-seat ratio, which is considered by BART to be the point at which riders would be discouraged from taking BART, would correspond with a (low) level of service E by the bus transit standards; using the rail standards, the 1.5 ratio would translate into a level of service C. That higher level of service implies a higher degree of passenger comfort than would actually occur. The level of service (E) under the bus standards is more illustrative of the low level of passenger comfort as indicated by BART.

In conclusion, the majority of transit operators serving San Francisco have adopted a load factor objective that most closely corresponds with the level of service scale identified for bus transit vehicles, in spite of the fact some of the transit service is provided on rail vehicles. The bus level of service standards therefore are used as the basis for assessing transit impacts.

Comment

I see nothing in the Report that considers the alternative of not taking down the freeway....

From a practical standpoint, it makes enormous good sense to keep the I-280 elevated freeway where it is and extend it to ground level at the Embarcadero [at Second Street, while also retaining the Belt Railroad and MUNI Metro lines along the Embarcadero]. The freeway is much too valuable a traffic arterial to be taken down merely for commercial development of its right of way. It is in the best public interest to retain it. . . .

The following are reasons for retaining and extending the I-280 Freeway:

- *The extension would provide quick, direct access to and from the Embarcadero, which in turn provides good access to the South Beach and northeast areas.*
- *The I-280 extension would provide direct truck access to the Embarcadero piers and adjoining businesses.*
- *In the case of the northeastern waterfront area, the extension would relieve Peninsula bound traffic on the now overcrowded 101 elevated freeway to and from the Washington and Broadway ramps. This could help to make eventual removal of the Embarcadero freeway a practical future alternative.*

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- Traffic flow into and out of the city would be improved by the additional ramps at Fourth Street and the I-280 extension to the Embarcadero.
- The plan to terminate the freeway at Sixth Street creates a choke point that will back up traffic on I-280 and on city street approaches because of local traffic and cross streets.
- The I-280 extension would permit the Muni Metro to go out under the freeway from the Embarcadero and eliminate the need to widen King Street for its right-of-way in the median.
- The I-280 extension and freeway right-of-way would provide a connecting route for the Embarcadero Belt Railroad to the S.P. main line at Seventh Street if Caltrain is run underground, or at Fourth Street during the interim.
- Peninsula bound traffic would be eliminated from King Street to the benefit of residences and offices on that street as well as to city traffic.
- Space under the freeway provides parking and public park areas between Berry Street and Mission Creek.
- As structures go, including buildings, the I-280 elevated freeway from Sixth Street east is not unattractive. It has a low profile with lines softened by sweeping curves. The massiveness of its structure can be offset by trees and landscaping to give a pleasing appearance.

... [T]he I-280 Freeway extension and Fourth Street on-ramp can be completed in a short time with existing funds without any disruption of present traffic flow. These features would have immediate usefulness. Completion of the freeway would allow development in the South Beach area and Mission Bay to proceed around an established parameter.

Sixth Street could be extended across Mission Creek, or join with Owens Street in Mission Bay to give downtown access. The Mission Bay plan cuts off Sixth Street north of Mission Creek. The I-280 parameter would allow King Street and Berry Street development to proceed. King Street should be developed to link with the Potrero district. (Raymond Aker, China Basin Maritime Historical Park Committee)

Response

The removal of the overhead segment of I-280

east of Sixth Street is included as a component of the I-280 Transfer Concept Program (TCP) (see p. V.7 of Volume Two, Chapter V. The EIR Alternatives and Approval Process). The I-280 TCP, while partially located in the Mission Bay Project Area, is a project that is independent from development decisions that will be made for Mission Bay. Its roots are in a 1973 amendment to the Federal Highway Act, which was adopted when the I-280 freeway connection to U.S. 101 via San Francisco's northern waterfront was defeated by citizen opposition.

That amendment enabled an alternative transportation systems plan to the I-280 freeway to be identified and funded with the unspent freeway construction funds. The I-280 TCP underwent extensive technical analysis and public review during 1983-1987, during which several alternatives and variants were considered. On November 4, 1985, the San Francisco Board of Supervisors adopted Resolution #965-85 endorsing the I-280 TCP Alternative 4a, which includes these transportation improvements: improving and widening The Embarcadero roadway to enhance pedestrian access and accommodate new public transit service; widening King Street to increase traffic capacity and add MUNI Metro Service; constructing a MUNI Metro turnback facility at Market Street and The Embarcadero; creating an F-Line Streetcar line between Market Street and Fisherman's Wharf; extending MUNI Metro service from Market Street into South of Market (and Mission Bay); and constructing new on- and off-ramps to I-280 near Sixth and King Streets.

The decisions for those improvements and preliminary funding commitments have been made. Design and engineering work for many of the projects are already under way. These improvements are slated to be constructed regardless of what occurs in Mission Bay. As there is no discretionary action for approval of Mission Bay development that would change the composition of the I-280 TCP, the Mission Bay EIR Alternatives do not have any real basis for assuming something different from those transportation improvements. Since identified project-generated impacts do not require an I-280 extension as a mitigation, an I-280 extension is beyond the scope of this EIR.

TRAVEL FORECASTS

Comment

The EIR assumes that North Bay commuters to Mission Bay would have the same transit modal split as those to downtown San Francisco (p.VI.E.125). This assumption might be further

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examined. At present, nearly all Golden Gate Transit riders walk short distances to their San Francisco work destinations. Because Mission Bay is located over one-half mile from the closest GGT bus stop, project commuters would have to walk longer distances or transfer to another vehicle to reach their work place if the GGT route is not altered. Transit service involving long walks or transfers rarely attracts as many riders as direct, no-transfer services. Therefore, EIR modal split assumptions may have overstated the magnitude of GGT ridership if new routing of buses is not intended and included as an assumption. At present, the District has no plans to extend transit service beyond its present terminus near the Transbay Terminal. (Jeronie Kuykendall, Golden Gate Bridge, Highway and Transportation District)

Response

Modal share assumptions used in projecting future trips in the EIR are based on a single weighted average of all travelers in the Downtown & Vicinity, for each geographic travel corridor (East Bay, North Bay, South Bay/Peninsula). The preponderance of all trips, regardless of travel direction, is generated by people in the C-3 (Downtown Commercial) financial and retail districts, which receive the best public transit service in the City. Their resultant high percentage of public transit use, coupled with their sheer number of trips, have the greatest influence in determining the overall modal splits for the Downtown & Vicinity. People in other subareas of the Downtown & Vicinity, such as South of Market, the Northeastern Waterfront or Mission Bay, do not have as high levels of public transit use, but their numbers of trips are far smaller than those generated in the C-3 districts. Therefore, the modal splits of these subareas, while lower than those in the C-3 districts, would reduce the overall transit modal shares to only a limited degree and thus not measurably alter the analysis in the EIR.

The modal split for the Project Area was assumed to be the same as that for the Downtown & Vicinity for the following reasons: 1) sufficient information was available from employee surveys and the Metropolitan Transportation Commission (MTC) to develop a reliable basis for forecasts of future travel for all of the Downtown & Vicinity, whereas no such basis exists for Mission Bay; and 2) the potential error associated with Mission Bay representing a lower transit modal split than the downtown average is far smaller than the error associated with developing a separate modal split for Mission Bay.

The EIR does not assume the extension of new Golden Gate Transit routes into Mission Bay. The commenter is correct in noting there would be relatively less convenient access to Golden Gate Transit from Mission Bay relative to other parts of the Downtown & Vicinity. In light of this circumstance, it is possible there could be fewer trips on Golden Gate Transit from Mission Bay than projected and presented in Tables VI.E.11 and VI.E.16, on p. VI.E.94 and p. VI.E.115, respectively, of Volume Two. Those tables indicate Mission Bay trips would constitute less than 5% of total demand on Golden Gate in 2000 or when Mission Bay is built out. Even if the peak hour mode share for all of Downtown were too high by 10% in year 2020, the difference in ridership from Mission Bay would be only about 40 riders. Thus, to the extent Mission Bay trips have been overestimated in the EIR analysis, it would not represent a significant difference in the numerical presentations nor would it change any of the conclusions of the analyses, because the total number of Mission Bay trips is such a small component of total demand on Golden Gate Transit.

Comments

. . . Caltrans has a long history of auto use documentation in the [U.S. 101 / I-280] Corridor, and is basing fundamental planning decisions on future projections. We believe that the Mission Bay EIR either should incorporate Caltrans projections for the period under study, or provide the basis for different assumptions. (Tom Nolan, Peninsula Corridor Study Joint Powers Board)

Page 100; BART Transbay, 1st paragraph - ABAG's employment projections from 1985 to the year 2000 indicate a 1% annual growth in San Francisco jobs. How does this correlate with the doubling of peak hour travel estimated in this paragraph of the report? An estimate of the trip generations supporting the projected travel demand should be presented. (Ward Belding, Bay Area Rapid Transit District)

Response

The Mission Bay EIR was prepared to specifically describe impacts of three base land use alternatives and a number of variants. Because of the scale of the project and the need to accurately assess cumulative background conditions for it, it was decided to prepare a specific forecast of land uses, business activities and employment for San Francisco's Downtown & Vicinity. Use of these projections for the Downtown & Vicinity (prepared by Recht

Hausrath & Associates specifically for the Mission Bay EIR, and reported in Volume Two, VI.B. Land Use, Business Activity and Employment, pp. VI.B.50-VI.B.79) in lieu of the Association of Bay Area Governments' (ABAG's) projections for the Greater Downtown area, made it possible to differentiate impacts among the three EIR Alternatives that would not have been possible with Caltrans' projections, which are based on ABAG's regional projections.

The economic projections for the Downtown & Vicinity evaluated in the transportation impact analysis are based on more detailed analysis of San Francisco growth trends than the ABAG projections, which are conducted from a regional perspective. The San Francisco forecasts assume a higher level of employment growth in the Downtown & Vicinity than do ABAG's projections. Therefore, the transportation impacts of development in the Downtown & Vicinity presented in the Mission Bay EIR represent a conservative description of future conditions (i.e., more travel demand). The growth in travel to or from areas of the region other than the Downtown & Vicinity was taken from MTC's travel forecasts, which are based on ABAG's projections. Therefore, that portion of forecast traffic is essentially the same as Caltrans' forecasts. By use of this approach, forecast growth in the Downtown & Vicinity is fully accounted for in the analysis, as well as the growth forecast by ABAG for the rest of the region.

Forecasts of BART's transbay ridership provided in the EIR (as for travel demand on all modes/carriers) are based on three separate inputs: the Recht Hausrath forecasts of employment in the Downtown & Vicinity, changes in distributions of places of residence for employees (residence patterns) of the Downtown & Vicinity, and shifts in use of different modes available to future travelers from the Downtown & Vicinity.

The residence patterns of future Downtown & Vicinity employees, also forecast by Recht Hausrath & Associates, assume the East Bay would provide a larger percentage of housing opportunities in 2000 and 2020 than in 1985. (See Table VI.C.15 on p. VI.C.58 of Volume Two, VI.C. Housing and Population, for residence patterns.) That forecast is similar to ABAG's projected residential distribution. In light of these forecasts and the assumption there would be no substantial capacity increases on the regional highway system serving the East Bay or AC Transit, the use of BART is forecast to increase by 26% just due to mode shifts from auto travel as a result of increased congestion on

the Bay Bridge (see Table VI.E.7, p. VI.E.77 of Volume Two). The total person trip demand from employment growth in the Downtown & Vicinity across the East Bay screenline is projected to increase by 72% between 1985 and 2000. As a result of applying the 26% mode shift to the growth in person trips, BART's ridership is projected to increase by 115%. The trip generation for these travel forecasts is described on p. VI.E.78 and p. VI.E.100 of Volume Two.

Comments

It is recommended that some tables and figures be provided to show the following: (Please note that the first two items (below) were requested in our initial letter to the City of San Francisco on September 30, 1987, regarding the Notice of Preparation.)

- *Trip generation, distribution and assignment*
- *ADT, and AM and PM peak hour volumes for State Routes 80, 280, and 101, and for all significantly affected streets and highways, including freeway ramps, which were not shown in the one peak hour traffic volume figure (Figure VI.E.3, Vol. II), and crossroads, and controlling intersections, for existing and future traffic.*
- *Modal splits, auto, various transit modes, etc.*

(Gary Adams, Caltrans, District 4)

Response

The travel demand analysis methodology used in the Mission Bay EIR is discussed in detail in Appendix E (the Transportation technical appendix) in Volume Three. The approach, which relies in large part on information generated for the regional travel demand and forecast model operated by MTC, differs from the type of trip generation calculations typically applied to individual building proposals. The Mission Bay model enables an integrated evaluation of how Mission Bay travel demand on various systems relates cumulative travel demand.

In order to explain trip generation, distribution and modal split factors of the analysis, some background on the Mission Bay transportation modeling process is provided. The first step was to develop a calibrated model that ensures a reasonable relationship between travel characteristics (e.g., percentage of trips during the peak period, geographic distribution, modal splits) and actual travel volumes on roadways and

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transit systems. This required collecting and analyzing travel volumes for all roadways and transit carriers analyzed in the EIR in 1985 (the EIR setting year).

Next, an estimate of 1985 travel demand was simulated by applying travel characteristic factors to the estimated number of travelers (such as employees, residents, visitors) in 1985. The travel characteristic factors are based on data from the 1981 San Francisco Downtown Employer/Employee Survey, and MTC's 1980 trip generation model.

The results of the simulated travel demand for 1985 were then compared to the 1985 volume counts. In instances where results were not within a reasonable margin of error of each other, adjustments were made to the travel characteristic factors until the simulated travel demand was consistent with the volume counts collected.

Thus, travel characteristic factors used in the Mission Bay analysis, while rooted in survey data collected for downtown San Francisco and the Bay Area region, were modified in some cases as a result of the model calibration process.

The base trip generation rates are derived from the MTC trip generation model. Different rates were established by MTC for the different trip purposes identified in its modeling process: home-based-work; home-based-other; and non-home-based travel. Thus, the trip generation factors are not differentiated by type of land use.

The base trip distribution factors were taken from the 1981 San Francisco Downtown Employer/Employee Survey, and from MTC 1980 residence pattern data in its regional travel model, for all types of trips.

Modal split (and peaking) factors similarly are taken from downtown San Francisco and MTC survey data. Modal splits, in particular, were adjusted during the calibration process.

The above explains the process for establishing a calibrated (validated) model which then was used to forecast changes in travel demand in response to forecast growth. Growth forecasts (in terms of employees and residents) were provided for San Francisco, and by ABAG's Projections '85 for the rest of the Bay Area region. Those two sets of forecasts also contain projected changes in residence patterns, which resulted in changes to the trip distribution factors assumed in the transportation analysis.

In light of travel capacity constraints on several segments of the regional transportation system

serving San Francisco, the travel forecasts presented in the EIR reflect changes in the modal split assumptions from those used in the 1985 calibration process. The EIR identified limited (or no) capacity on some highway segments to accommodate the amount of growth forecast. Thus it was assumed that, if this amount of growth were to occur, a greater proportion of trips associated with travelers to or from the Downtown & Vicinity would have to be made by transit or rideshare modes. Modal split assumptions for non-Downtown & Vicinity travelers, however, were not changed from those derived in the 1985 calibration process.

The numerical values for these travel characteristic assumptions, by trip purpose and time frame (1985 versus 2000 or 2020) are retained as background material to the EIR analysis, available for public review at the Office of Environmental Review, 450 McAllister Street.

The orientation of the transportation analyses on p.m. peak hour and period conditions was selected for several reasons. The main reason is to focus the analyses on the worst travel conditions of the day on systems to which San Francisco travel demand measurably contributes. On the basis of a review of daily travel volumes, the peak demand period in San Francisco for most of the streets and highways analyzed is from 4:00 to 6:00 p.m. That is supported by travel surveys showing that generally higher numbers of trips occur during the afternoon commute peak period than during the morning commute peak period. This is due to more varied types of trip purposes (e.g., work-to-home, recreational, non-home-based such as work-to-school) that occur during the afternoon than the predominantly home-to-work trips that occur in the morning commute peak period.

Analysis of operating conditions during the p.m. period enables the Department of City Planning, the lead agency for this San Francisco project, to analyze worst-case impacts on San Francisco's local street system, as well as on the portions of the highway network to which they connect. By contrast, during the morning commute, peak travel demand occurs in locations outside of San Francisco. Many local streets and intersections operate at poor levels of service on weekday afternoons as they meter traffic trying to access congested freeways. Both of these components of San Francisco's transportation network -- local intersections and regional highways -- are evaluated in detail in the EIR.

The EIR analyses utilize "screenlines" as a tool for measuring impacts on the highway system. The locations of those screenlines are at the city

limits: San Mateo County line for U.S. 101 (South) and I-280, Golden Gate Bridge for U.S. 101 (North), and San Francisco / Oakland Bay Bridge for I-80. They were selected so that all regional trips emanating from San Francisco activities would be accounted for. In addition to the San Francisco screenline analysis, the EIR analysis extends beyond the City limits to identify other constraint points on the regional highway system. That discussion is found on pp. VI.E.135-VI.E.139 of Volume Two and is intended to provide a broader context of other capacity constraints that will also have an effect on traffic headed towards or away from the Downtown & Vicinity.

The transportation analyses in the Mission Bay EIR represent an unprecedented expenditure of resources to analyze what are considered to be dire impacts projected in the future, and to identify mitigation measures for consideration. The Department believes it strikes the best balance of evaluating in a comprehensive manner issues of local concern and those of other regional and state transportation agencies.

Comments

Due to insufficient traffic information relating to State facilities, we are unable to determine the extent of project-generated highway impacts at this time, although they will be significant. The document should address this, along with appropriate mitigation measures....

Various sections of Volume II show, for example, how many "project area" vehicle trips are at a specific screenline (for example, Table VI.E.15, page VI.E.108), or how many transit riders use a specific transit company at a specific screenline (for example, Table VI.E.19, page VI.E.121), but this does not appear to be summarized anywhere. Our suggested format for trip generation should assist in this process. (Gary Adams, Caltrans, District 4)

As noted in the EIR, the traffic effects of the development will be most strongly felt at the South Bay screenline, and the project's contribution to the traffic on regional facilities will be proportional to the share of jobs provided in Mission Bay relative to the rest of the downtown and vicinity area. The EIR would be helped in general if the following information could be highlighted.

- increases in vehicle traffic on Route 101 and I-280 due to the project as opposed to cumulative growth in San Francisco;

- gains in CalTrain ridership due to the project (which offset some of the loss in ridership due to the proposed relocation of the terminal);
- effect on SamTrans express bus ridership due to the project; and
- projected ridership on the Muni Metro extension due to the project.

(Chris Brittle, Metropolitan Transportation Commission)

Response

The format for presenting transportation impacts in the EIR is designed to provide an understanding that the overall level of service of any particular roadway or transit carrier in a transportation system is the sum of a number of travel demand components. For each highway and transit screenline, the EIR first presents the total number of trips projected to occur for the p.m. peak hour and period, then the estimated breakdown of each total attributed to the Mission Bay Project Area, Downtown & Vicinity, and the rest of San Francisco and the region (see Tables VI.E.10-VI.E.12, on pp. VI.E.87-VI.E.88 and VI.E.94-VI.E.97 of Volume Two, and Tables VI.E.14-VI.E.19, on pp. VI.E.106-VI.E.109 and VI.E.115-VI.E.122 of Volume Two). Finally, total travel demand is compared to capacity (Tables VI.E.10, VI.E.14, and VI.E.15 for highways, and Tables VI.E.13 and VI.E.20, p. VI.E.98 and p. VI.E.130 of Volume Two, respectively, for transit) to determine when and where additional carrying capacity would be required.

Impacts on CalTrain and SamTrans are included in Tables VI.E.11-VI.E.12 and VI.E.16-VI.E.19. As for the other transit carriers shown on these tables, the estimated number of trips associated with the Mission Bay EIR Alternatives is provided.

Impacts on MUNI are presented in two formats. One format, displayed in Tables VI.E.11-VI.E.12 and VI.E.16-VI.E.19, evaluates impacts on MUNI service for sectors of the City. The number of trips presented in those tables represents travel demand on all MUNI routes serving the northeast, northwest, southeast, and southwest areas of San Francisco; those tables do not present ridership projections on individual routes, such as the MUNI Metro line serving Mission Bay. The tables include an estimate of the number of trips attributed to the Mission Bay EIR Alternatives.

By contrast, the other format for presenting MUNI impacts does focus on ridership impacts

on the individual MUNI lines that would serve the Mission Bay Project Area in the future, including MUNI Metro. That format is shown in Tables VI.E.24 and VI.E.27, p. VI.E.150 and p. VI.E.177, respectively, of Volume Two. However, those ridership projections include all passengers, including those from outside the Mission Bay Project Area, who are projected to ride on those bus routes. The projections on the individual routes are not considered to be as reliable as the projections for groups of routes shown in Tables VI.E.11-VI.E.12 and VI.E.16-VI.E.19, because there is more possibility for error in projecting ridership on any single route versus on a group of routes serving a common geographic area. For that same reason, the line-by-line ridership projections do not provide detailed quantified breakdowns of the number of Mission Bay riders on each line, as that would imply a greater level of accuracy than the projections represent. For the MUNI Metro, however, approximately 25-30% of the projected riders are estimated to be generated by land uses in Mission Bay.

The comprehensive approach taken in the Mission Bay EIR of presenting cumulative travel demand on various transportation systems is believed to be more instructive than isolating impacts of the Mission Bay Project Area only, even if only in summary form. Providing a breakdown (in almost all cases) of the different components of cumulative travel demand directly in the tables provides the most direct way of communicating to the reader the limited role Mission Bay would play in the total cumulative conditions projected for the highways, transit systems, and local street intersections analyzed. Though not proposed for addition to the text of the EIR itself, Table XV.E.2, which presents project-related impacts only, has been prepared to respond to the commenters. Mitigation measures are discussed in the Response on pp. XV.E.37-XV.E.38.

More detailed travel forecast information is included in a set of data binders available for public review at the San Francisco Department of City Planning, 450 McAllister Street.

Comment

The main reason for these horrendous traffic conditions is the assumed modal splits for future travel. It should be apparent to all observers of the transportation scene that bigger shifts in modal splits than those assumed are necessary. That is, a higher percentage of travel must be by transit.

Present trends cannot continue. There simply isn't enough space in San Francisco for all those automobiles. This is recognized in the Transportation Element of the Master Plan[:] "...just as the street system cannot accommodate all potential traffic, so the City cannot provide for an unlimited level of automobile storage." That is from a paragraph about residential areas, but it applies to all areas. (Norman Rolfe, San Francisco Tomorrow)

Response

Future cumulative traffic conditions for screenlines in the EIR are based on forecasts of economic activity and population in the region, plus estimates of the shares of future travel on transit or auto modes needed to accommodate peak period travel demand. If those conditions develop, the street and highway traffic volumes would largely depend on the share of future travel demand using transit. The transit mode shares used in the EIR impact analysis were intended to reflect probable growth in highway and transit capacity as reflected in planning and funding programs defining projects reasonably assured to exist by the year 2000. Based on the availability of those "reasonably-assured" projects listed on pp. VI.E.56-VI.E.58 of Volume Two, the forecasts of future travel in the cumulative analysis assume that very substantial shifts in travel from autos to transit would be made by people from the Downtown & Vicinity in response to congested conditions projected on the highways and bridges serving San Francisco. Such shifts would enable vehicle trips from and to other parts of the region, which have not been assumed to shift to transit use, to be accommodated on the highways.

The specific reasons for assuming the shifts to transit and ridesharing are presented on pp. VI.E.75-VI.E.76 of Volume Two, and in Table VI.E.7 on p. VI.E.77 of Volume Two. Table VI.E.7 shows that substantial shifts in travel modes are expected to be made in the future by persons travelling between the Downtown & Vicinity and the North Bay or East Bay. For example, travelers from the Downtown & Vicinity to the East Bay are projected to reduce the number of trips in private vehicles by about 37%, resulting in a 26% increase in BART ridership. The overall percentage of Downtown & Vicinity travelers taking transit to the East Bay during the afternoon commute period is projected at about 80% in 2000.

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TABLE XV.E.2: SUMMARY OF MISSION BAY PROJECT-RELATED TRANSPORTATION IMPACTS, P.M. PEAK PERIOD /a/

	<u>1985</u>	<u>2000</u>	<u>2020/c/</u>
San Francisco			
MUNI Corridors			
Northeast	/b/	300	775
Northwest	/b/	325	800
Southwest	/b/	500	1,225
Southeast	/b/	150	325
North Bay			
Golden Gate Bus	/b/	225	625
Golden Gate Ferry	/b/	50	100
U.S. 101 - Golden Gate Bridge	30	120	325
East Bay			
AC Transit	/b/	400	1,025
BART	/b/	1,050	2,750
I-80 - Bay Bridge	50	50	475
South Bay			
CalTrain	/b/	75	200
SamTrans	/b/	50	150
BART	/b/	250	650
U.S. 101	30	130	450
I-280	20	120	325

/a/This table identifies project-related impacts on citywide or regional transportation systems serving San Francisco under EIR Alternative A (which generally would cause the greatest impact). Entries represent person trips (on transit) and vehicle trips (on freeways). Mission Bay impacts on local streets or individual transit routes in or adjacent to the Project Area are presented in "Project Area Impacts, 2000," pp. VI.E.140-VI.E.190 of Volume Two.

/b/Each of these volumes is closer to 0 than to 25 when rounded off.

/c/Demand figures for year 2020 represent unconstrained demand. This differs from the figures shown for year 2000 impacts which represent constrained conditions on certain transportation systems (particularly those serving the East Bay), where mode shifts were assumed.

SOURCE: Barton-Aschman Associates, Inc.

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improvements to the region's transportation system, further significant shifts to transit use are unlikely. The impact analyses presented in the Mission Bay EIR indicate there would be sufficient travel demand in the future to justify more transit capacity additions beyond those assumed in the analyses that, if provided, would result in an even higher percentage of transit use.

Comment

It is fitting that 2020 should be chosen for one [of] the benchmark years. The American Association of State Highway and Transportation Officials and other organizations have sponsored a nationwide series of forums called Transportation 2020. . . . The theme is that in 2020 transportation systems and policies will have to be different from today's. It discusses why and suggests alternatives. . . .

. . . [O]ur transportation system in 2020 will have to be one which is not as dependent on oil as the present one, and uses what oil it does use more efficiently than the present one. In other words, most trips will have to be made by public transit, and a large part of that will be electrified rail transit.

. . . There simply is not enough room in our metropolitan areas for everyone to make every trip by automobile. Land in our metropolitan areas is becoming too valuable and too expensive to use for highways. . . . It is needed for housing, commerce, and industry. Regardless of what happens with oil, or other fuels, we will still need the improved transit systems described below.

. . . One common way to try to get around this [congestion] problem is sprawl, but sprawl is becoming less and less tolerable. Commuting times are becoming ridiculous. Freeway tieups are the normal situation. More and more people are becoming concerned about the loss of valuable farmland, needed for producing food, and open space. It can't continue. (Norman Rolfe, San Francisco Tomorrow)

Response

Statements made by the commenter are validated by conclusions of the transportation analysis in the Mission Bay EIR. Due to the amount of employment and population growth forecast and the more limited availability of land, transportation patterns will have to change in order for people to avoid intolerable congestion levels. The Transportation Mitigation section for year 2020 (which addresses possible solutions for

consideration after 2000), beginning on p. VI.E.217 of Volume Two, identifies mostly transit or ridesharing improvements. Almost all of them represent major investments in new infrastructure to expand or introduce more segments of the regional transportation network. If a number of these projects were funded and built, the transportation system could be dramatically transformed from one oriented to moving automobiles to one that concentrates on moving people.

Comment

The Freeway has not been dealt with adequately. If there are ultimately to be 20,000 jobs and 7,000 living units, there will have to be considerable planning to provide for such an influx of cars and people. Since there are currently approximately 2,000 jobs in the area, and traffic is now backed up to Army Street during normal commute hours, it will take more than the widening of Third Street and 16th Street and the planned increase in Muni to keep things moving. We do not believe the Draft Report addresses the problem of auto gridlock and its possible mitigation adequately. (Gloria Van Winkle, Potrero Boosters and Merchants Association)

Response

The transportation impact analysis presented in the Mission Bay EIR is the most extensive done to date in any EIR prepared by the City. Included in the scope of that analysis is a presentation of the impacts of citywide and regional (not just Mission Bay) growth on the portion of the region's freeways serving San Francisco. An apparent conclusion of the commenter, that the Draft EIR implies that improvements on Third and 16th Streets and MUNI service extensions would "keep things moving," is not borne out by the impact analysis. In fact, the EIR indicates that the peak period (4:00-6:00 p.m.) capacity of most of the highways would be fully utilized or exceeded in year 2000, even if a higher percentage of travelers from downtown San Francisco took public transit instead of driving their cars.

The commenter is correct in that highway conditions would generally be very congested in the future. Pages VI.E.84-VI.E.92 in Volume Two present the detailed discussion of future congestion on each of the major highway segments in 2000: I-80 / Bay Bridge; U.S. 101 (North) / Golden Gate Bridge; I-280; and U.S. 101 / South Bay Peninsula.

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The commenter has questioned the adequacy of the traffic impact analysis regarding operating conditions on nearby freeways, including I-280, I-80 and Highway 101 from Army Street north to U.S. 80. In the EIR, existing demand during the peak period is described as creating a "backup of traffic northbound on U.S. 101 and eastbound to the Bay Bridge . . . from the Bay Bridge and I-80 south to approximately Army Street" (see p. VI.E.42). For I-280 north of U.S. 101, existing conditions are described on that same page as resulting in LOS E with speeds of 20-25 mph during the p.m. peak period. By the time Mission Bay is expected to be fully built out, the conditions would of course be even more severe than in 1985 in the absence of any improvements. The EIR recognizes those congested conditions are a product of cumulative regional travel demand to which travelers from Mission Bay or any part of San Francisco would contribute. For that reason, many of the mitigation measures identified to relieve highway congestion in years 2000 or 2020 would require coordinated regional planning.

It is not possible at this time to determine exactly how and when all the mitigation measures would be implemented, or whether, if implemented, those measures would be able to accommodate all projected travel demand adequately. As a result, the EIR concludes that potential cumulative transportation impacts represent an unavoidable significant impact on the environment.

In light of the above, it is believed the EIR has fully disclosed the important potential transportation impacts.

PROJECT AREA ACCESS AND CIRCULATION

Comments

The last transportation issue we wish to amplify or should be amplified is the extension of the MUNI Metro. Again, the discussion in the Draft EIR is mostly focused on extending the Metro to a CalTrain station relocated at 7th and Channel. Even if the station is downtown, the MUNI Metro should be extended through the project and, hopefully, in some way out further, whether it's along Third Street or through a tunnel alignment. Certainly, the residents of Potrero Hill are very interested in a viable MUNI Metro to that area. We believe that these three issues need to be significantly amplified in any EIR before it can be certified. (Richard Moss, Potrero Boosters and Merchants Association)

I addressed Mr. Dean Macris with a letter about the Third Street corridor and the ugly iron

bridge. If this EIR is approved, you are going [to] have residents along a truck route. Yes, resident housing along Third Street is going to be housing along a truck route.

Now, if these people move in, I would suggest and hope that they take this Commission down to [the] Civic Center, and . . . tar and feather you. You're not monetarily responsible for putting residential housing along the Third Street corridor.

Also, that ugly iron bridge is a bottleneck. Trucks are going to be idling while the bridge is up with those fumes going into residential housing. Those trucks are going to be going along Third Street with fumes going into residential housing. And those poor people are going to be having beautiful homes on a truck route. No one is addressing that.

I hope the residents really do that to the Commission after they move, which is probably 20 years from now and I won't be in the Bay Area any more anyhow. But it's short planning and no one is addressing a limited access Third Street corridor with an underground tunnel in the India Basin. Four lanes of traffic, two lanes for rapid transit, future rapid transit that they want to run down to the airport and San Mateo County. No one is addressing the Third Street corridor except as a truck route. That is why I have been a one-issue person, the Third Street corridor.

The reason? I use it myself to go downtown. It's a beautiful limited expressway. You should see the traffic in the morning and afternoon. And with residential housing there, just think, ten, fifteen, 20 years from now, a bottleneck of trucks and cars trying to get home in the evening. It's a residential neighborhood. (Gene Dymek)

Response

Third Street is the major north-south route between downtown San Francisco and the southeast quadrant of the City. It is included in the scope of a long-range planning study for expanding MUNI Metro service to the Bayshore corridor. That service extension is a component of MUNI's long-range improvement plan; it also is included in the Transportation Element of the City's Master Plan. Planning funds for this improvement are included in the one-half cent sales tax increase approved in the November 1989 election in San Francisco.

The Mission Bay EIR, in addition to including Metro service to the Bayshore area as a possible mitigation measure (Measure E.39, p. VI.E.231 of Volume Two), addresses this matter in a broader

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context on pp. VI.E.194-VI.E.197 of Volume Two, under "Transportation Projects in the Bayshore Corridor." That discussion identifies improvements contemplated in San Francisco which would reduce congestion along Third Street.

The development of Mission Bay factors notably into the planning and funding issues to be resolved in determining the extension of MUNI Metro service to the Bayshore Corridor. It would in some ways help the extension to be implemented because it would establish a new pool of MUNI riders. In recognition of the need to serve those patrons, the draft plan for Mission Bay, released in January 1987, includes Metro service extension from Market Street to Mission Bay, as well as to new stations along the extension. However, the extension of service to the west side of the Mission Bay Project Area could create different route alignment options further south into the Bayshore corridor. The current Mission Bay planning process addresses only the Metro service extensions through the Project Area. Whether, and at what point, the MUNI Metro would be extended further south along Third Street has not yet been determined by MUNI and the Public Utilities Commission. Such further extensions and alignments would be the subjects of separate planning and environmental review at the time they are proposed.

Besides the addition of new MUNI Metro service, transportation circulation in Mission Bay would be significantly changed in other planned improvements.

Implementation of the I-280 improvements of widening King Street to provide boulevard access to new on- and off-ramps for I-280 at Sixth and King Streets would replace the single off-ramp currently at Fourth and Berry Streets (which now channels high volumes of traffic to the Third/Berry intersection). This would improve traffic flow along Third Street. The four-lane Third Street Bridge, which was adopted as a City landmark on September 5, 1989, is not projected to be a traffic bottleneck with those improvements in place. The bridge contains the same number of lanes as the Third Street roadway and thus the same carrying capacity. On p. VI.E.13 of Volume Two, the EIR explains that the drawbridge is infrequently operated and does not typically pose a congestion problem.

Since no new berths on China Basin Channel are proposed, the low frequencies of use by recreational boats would continue in the future. Nevertheless, Third Street would continue to operate as a main automobile thoroughfare and as a major truck route for the City. The EIR

identifies potential noise and air quality impacts associated with the traffic impacts analyzed and presents several mitigation measures to reduce them (see Volume Two, VI.F. Air Quality and VI.G. Noise). Among them is the recommendation for noise buffering measures and continued encouragement of transit-oriented travel.

Comment

The circulation pattern to and within the project should guarantee that the new neighborhood is integrated with surrounding neighborhoods and the rest of the City.

With the congestion and bottleneck of traffic now, great thought should be given to the additional cars that will be on Third St. Can 7,000 more cars be assimilated? (Babette Drefke, Potrero Boosters and Merchants Association)

Response

The EIR does not present the increases in the projected number of vehicles traveling through intersections in or adjacent to Mission Bay. Therefore, it is not possible to determine definitely the source of information used by the commenter to identify the addition of "7,000 more cars." The commenter may have used year 2020 peak-hour vehicle volume increases on Third Street at Mariposa Street shown in the project data binder on file at the Office of Environmental Review, Department of City Planning, extrapolating them to give daily traffic volume increases of that order of magnitude.

The EIR does indicate the projected changes in the levels of service for about 32 intersections between 1985, 2000 and 2020. (See Tables VI.E.23 and VI.E.26, p. VI.E.144 and p. VI.E.168, respectively, of Volume Two.) Except for the intersection at Third and Mariposa Streets, intersections on Third Street south of Berry Street are projected to operate at acceptable levels of service (LOS D or better) during the p.m. peak hour at build-out of Mission Bay, with the modal splits assumed for the Downtown & Vicinity; the Third/Mariposa Street intersection would operate at LOS E. The intersections of Third and King Streets, and Fourth and King Streets, would operate at congested levels of service during the p.m. peak hour. The EIR, however, identifies mitigation measures that are available to improve those intersections to acceptable levels. (See Mitigation Measure E.4 on pp. VI.E.200-VI.E.201 and Mitigation Measures E.29-E.30 on pp. VI.E.218-VI.E.219 of Volume Two.)

Comments

On the southwest side, along Seventh Street better access should be provided over the railroad tracks. As we and others have suggested before there should be strong consideration given to:

1. Underground the tracks for CalTrain under the Mission Bay project.
2. Move the CalTrain station to a more central location such as the East Bay Terminal.

In the far west corner, King and Berry Streets should be preserved in their current alignments. No development should be allowed here that would disrupt the street flow and tend to isolate the project from the Showplace Square area. (John B. DeCastro, Potrero Boosters and Merchants Association)

. . . (1) [W]e strongly back undergrounding the CalTrain right-of-way from the existing tunnel portal (under the I-280-18th street interchange) to wherever the station-terminal will be; (2) . . . we affirm our support for a true downtown terminal, accessed by an underground right-of-way; (3) . . . all land use plans in the Draft EIR that are postulated on the assumption that the existing above-ground tracks parallel to 7th street and with a 16th street grade crossing will remain, notwithstanding the Project, [should] be rejected and as an alternative, the land use question restudied with the assumption that only an underground CalTrain right-of-way will ultimately exist.

It appears that part of the Draft EIR's failure in seeing the expanded issues regarding CalTrain is the result of a blind acceptance of an assumption that the I-280 freeway over the tracks on 7th street is as much of a physical barrier to connecting and integrating the Project to the west and south as are the tracks. I very much disagree with this conclusion, because the freeway is raised above the street level and does not pose any significant physical barrier, or safety problem, at all comparable to the at street level train right-of-way, with its obvious need to avoid street grade crossings. Moreover, as the SF Chapter of the AIA has recently demonstrated with its excellent plans for an improved, aesthetic Embarcadero roadway that will be integrated with the above-ground freeway, it is very possible to plan and design around the freeway so that it is not a barrier to the achievement of otherwise desirable land use goals.

It is possible to list . . . all of the instances in the Draft EIR where a land use or transportation issue is compromised because of the above-stated

assumptions. . . . There are certainly many more that you all know of and could be added to the list.

1) The express assumption of the continued future status quo land use of the existing rail and highway rights-of-way, represented by the gray-colored areas in alternatives A, B, and N.

2) The street alignment both within the Project and connecting with the nearby neighborhoods accepts the status quo. South of the Channel only 16th street provides any access to the Project from the west. 7th and Owens are set forth as barrier streets with no interconnection on Berry, Hooper, Irwin, Hubbell, Daggett, Alameda, or 15th streets. . . .

5) In Alternative 9, the consideration of an underground CalTrain station at 4th and Townsend, the discussion is limited solely to the issue of the effect on train ridership, and does not address any of the other issues I've mentioned above. Moreover, there is no discussion anywhere of alternatives to total undergrounding, such as locating the tracks in a below ground open right-of-way, that could be crossed by streets and partially covered by buildings, pedestrian crossings, etc. (Richard H. Moss, Potrero Boosters and Merchants Association)

The southwest side is allowed no access for a long distance and is further isolated by the retention of the CalTrain tracks as the status quo. The CalTrain tracks should be placed underground or below street level and be extended to a truly downtown location. No discussion of this alternative is mentioned in the report and one more barrier is allowed to remain and intensify in the context of any planning. (Rebecca Ford, Potrero Boosters and Merchants Association)

Response

The Mission Bay Alternatives would maintain the same street connections between Mission Bay and areas to the west as exist today. Additional street connections, with the possible exception of the area around Hooper Street, would not be possible with a CalTrain station in the vicinity of Seventh and Channel Streets, south of China Basin Channel.

The intersection of Seventh and 16th/Mississippi Streets is projected to operate at LOS D in 2000 and LOS C by build-out of Mission Bay. Adverse traffic circulation impacts are not projected for that intersection as a result of keeping the railroad crossing of Sixteenth Street at-grade, unless the number of trains that need to

be shuttled in the peak hour is much higher than with the current operating plan. As a result, modification to this proposed at-grade rail alignment was not recommended as a mitigation measure. (See also the Response on pp. XV.E.25- XV.E.26.)

Although the Mission Bay Project sponsor did not propose undergrounding of the Southern Pacific Railroad tracks north of the tunnel through the Project Area, the possibility of depressing the CalTrain tracks to serve an underground station at Fourth and King Streets was discussed as a variation on the Alternatives (see Variation 9 [CalTrain Station Location], pp. VII.51-VII.54 of Volume Two, Chapter VII. Variations on Alternatives). Although the purpose of that analysis was to focus on CalTrain ridership implications, depressing or undergrounding the tracks could provide other benefits. Among them are greater Project Area circulation, and reduction of noise from the trains. (It should be noted that undergrounding CalTrain service would require more than the installation of a tunnel. The train system itself would probably need to be transformed from a diesel system to an electrified line.)

If a subway or tunnel is built for CalTrain under 16th Street, then it would be possible to extend some of the streets in Mission Bay to connect with Seventh Street. This could occur without affecting the overhead I-280 elevated freeway. With Alternative A, the extension of Alameda Street would then facilitate a more direct connection between the north Potrero Hill area and the center of the Project Area (see Figure II.8, p. II.9 of Volume One). With Alternative B, it would be possible to extend Hooper and/or Hubbell Streets, depending on urban design and traffic service objectives (see Figure II.11, p. II.13 of Volume One). With Alternative N, Hubbell and/or Daggett Streets could be extended, depending on site development decisions (see Figure II.15, p. II.17 of Volume One).

If the CalTrain tracks were only partially undergrounded (with an exposed "open-cut" design), the development of the northwest sector of Mission Bay would have to be re-evaluated to identify if the uses proposed would continue to be feasible. In particular, the residential uses proposed in surrounding blocks in Alternative B might not be compatible with an open-cut design for extension of CalTrain in this alignment.

The Mission Bay Alternatives and variants assessed in the EIR did not include a CalTrain downtown station relocation project. The prospect of undergrounding CalTrain service as part of an extension to downtown San Francisco

is being separately evaluated in an environmental impact study prepared by the Peninsula Corridor Study Joint Powers Board (JPB). The inclusion of Variation 9 (CalTrain Station Location) in the Mission Bay EIR retains the option for an underground extension through the Project Area to enable a downtown extension of CalTrain. The decision for such an undertaking, however, rests with the JPB; it is not a part of the approval process for Mission Bay.

Comments

[Casey's Office Moving and Services, Inc.] relocated [its] storage warehouse from South San Francisco to 1900 Third Street in April, 1988. . . .

We have invested approximately \$100,000.00 in our furniture shop, general offices, telephone and security systems at 1900 Third Street. We intend to stay here for many years to come. If our trucks are not allowed to enter the warehouse through our two doors facing 16th Street, then we would be forced to move. It is time for San Francisco to take an active role in protecting the jobs of its residents. (James Pacheco, Casey's Office Moving & Services, Inc.)

This facility [the A.M. Castle & Co. warehouse located at 1900 Third Street] is used as a distribution center for metal products. As such, we are heavily dependent upon the accessibility of trucks to this warehouse.

. . . [W]ithout continued truck access from the north side, A.M. Castle & Co. would be forced to close this distribution center and move to another location which would probably be located in the Central Valley near Stockton.

As a result, San Francisco would lose another local employer of blue collar jobs. Our current employment includes 59 workers with an approximate annual payroll of \$2,400,000.

I hope that you will thoroughly consider the severe impact that the elimination of truck access would have on our business and employees when reviewing the Mission Bay Environmental Impact Report. (M. Bruce Herron, Castle Metals)

Volumes I and II of the draft EIR for Mission Bay do not address the possible elimination of the former Tennessee and Seventeenth Streets and Sixth Street south of Sixteenth Street and west of Third Street and the resulting negative impact to existing, long-established traffic patterns and jobs and businesses. If these former streets are eliminated or permanently obstructed then large portions of the 1900 Third Street warehouse

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would be unusable due to inadequate truck access, which would eliminate local businesses and up to 130 blue collar jobs. These significant impacts must be addressed in the EIR and mitigation measures imposed.

1900 Third Street is a single-story warehouse and distribution facility consisting of 162,891 square feet. Together with an adjacent two-story office building of 20,000 square feet and a surface parking lot, the subject property represents the largest "out parcel" from the Mission Bay plan. . . .

The warehouse was designed so that trucks could enter from the north side at two points via Sixth Street, Tennessee and Seventeenth Streets, drive through the building and exit onto Mariposa. The center entry door is in line with the Tennessee Street right-of-way which is 80 feet wide. The northwest entry door opens on to Seventeenth Street and then crosses a portion of Santa Fe Pacific Realty land before connecting with Sixth Street which also extends south of Sixteenth Street. . . .

. . . A third door has since been added to accommodate a second tenant. The three internal drive lanes are wide enough to accommodate large trucks but too narrow to allow internal turnarounds and/or two-way truck traffic. Consequently, continued ingress or egress from the north side of the warehouse building is essential to serving all bays.

It is important to note that the warehouse was designed and constructed to utilize Tennessee Street. . . .

The warehouse and office building are fully leased to two tenants on long-term leases. Casey's Office Moving and Services, Inc. occupies 70,000 square feet until November 30, 2010. A.M. Castle & Co occupies 112,891 square feet on a lease which expires December 31, 1993 with an option for an additional five-year term.

Casey's, who utilizes the facilities for administrative headquarters, a furniture refinishing shop, customer storage and dispatch operations, has nearly 70 blue collar employees and an annual payroll of approximately \$1,500,000. A.M. Castle uses the property for its Northern California sales office and distribution center for specialty metal products. Castle has 59 blue collar employees at this site with a gross annual payroll of \$2,400,000. Both tenants would be forced to vacate most or all of the premises if truck access from the north side of the warehouse is eliminated. Moreover, A.M. Castle,

and possibly Casey's, would be forced to relocate outside of San Francisco if this facility were not available. . . .

. . . [A]lthough the draft EIR discusses at great length various issues relating to changes in existing traffic patterns, it does not mention at all the adverse effect that closing off the former Tennessee and Seventeenth Streets and Sixth Street would have. . . .

The draft EIR is incomplete because it does not address this point. Moreover, since this is an established area for blue collar jobs, any such elimination of access would divide and disrupt an established community. This would constitute a significant effect on the environment under CEQA Guidelines, Appendix G.

Accordingly, we request that the draft EIR be amended to reflect the facts outlined above: to state that elimination of access would constitute a significant effect on the environment as required by CEQA; and to contain mitigation measures that would allow continued access to preserve these jobs and local businesses. (John Wilson, CWL 1900 Third Street Associates)

Response

Alternatives A, B and N would not eliminate existing public streets in the vicinity of 1900 Third Street. See the street network as shown in Figures VI.E.11-VI.E.13 (pp. VI.E.141-VI.E.143, respectively, of Volume Two) and VI.E.16-VI.E.18 (pp. VI.E.170-VI.E.172, respectively, of Volume Two). Although the Comment identifies northern access to the property across portions of Tennessee, 17th and Sixth Streets, as well as across private property, the streets referred to were vacated by the City over 100 years ago. The Alternatives do not propose new public streets south of 16th Street which would provide public rights-of-way to the north side of 1900 Third Street. However, approval of any of the Alternatives would not prevent the property owner from securing continued private access to that side of the property.

Furthermore, Variant 12 (Development Agreement Application), in XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46, includes a street grid alignment that could potentially accommodate truck access from the north side of 16th Street to the 1900 Third Street building. Such a plan could be adopted for Mission Bay.

Even if build-out of an approved Alternative had the effect of limiting or eliminating the northern access to the property, such development may not

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interfere with the existing uses of the property. The timing of displacement impacts and the uses that are affected differ among the Alternatives analyzed. Timeframes for the analyses extend to years 2000 and 2020. The analyses indicate it is unlikely that Mission Bay development would affect the northern access to the 1900 Third Street facility before year 2000. At this time, it cannot be determined with certainty whether or when Mission Bay development between 2000 and 2020 would reach a point where access to 1900 Third Street from the north could be affected. Depending on building space absorption rates, such development may not occur during the lease terms referenced in the Comment.

If a compatible alignment were not included in a plan for Mission Bay, and development of the Project Area occurred within a timeframe that interfered with the businesses referenced in the Comment, displacement of the jobs cited in the Comment could occur. The displacement could generate an economic impact, with potential secondary physical impacts, such as those from off-site relocation or new replacement uses more compatible with the Mission Bay Plan ultimately adopted.

Displacement of land uses in the Project Area as a result of Mission Bay development is addressed on pp. II.28-II.29 of Volume One, and on pp. VI.B.93-VI.B.101 of Volume Two, VI.B. Land Use, Business Activity, and Employment. Potential effects on land uses in Nearby Areas outside the Project Area boundaries, which include the 1900 Third Street building cited in the Comment, also are addressed on pp. II.29-II.30 of Volume One, and on pp. VI.B.106-VI.B.109 and VI.B.113-VI.B.115 of Volume Two. While the specific circumstances peculiar to 1900 Third Street were not discussed, the EIR analyzed and disclosed the potential impacts associated with displacement of businesses such as those identified in the Comment.

It should be noted that the reference to CEQA Guidelines, Appendix G (i.e., creation of significant impacts by dividing or disrupting an established community) is not appropriately applied to the situation where access to one individual building may be affected by development alternatives. As an advisory guideline, this portion of Appendix G is intended to address circumstances involving a greater magnitude of physical change, for example, the construction of a new freeway segment that eliminates or irreparably divides a population center or a biological habitat area.

The EIR includes a mitigation measure (Measure B.1, on p. VI.B.124 of Volume Two) to

provide relocation assistance for businesses with limited location options or site-specific requirements. That proposed measure is modified to extend to the 1900 Third Street facility as well; the measure may be adopted in findings that accompany the Plan ultimately approved for Mission Bay. The second sentence of Mitigation Measure B.1 is revised to state:

- Some existing businesses in or adjacent to Mission Bay could have difficulty finding suitable sites elsewhere in the City.

Comment

The next transportation issue is . . . the need to view with much greater detail 16th Street and the role it might play. It is and will be the major east-west artery. The Boosters have discussed with the Planning Department the idea of having a 16th Street study. We would, again, encourage that to the extent within Mission Bay, it should be looked at. It really will be the major east-west access to the project. Of course, it extends far to the west, but it will be used heavily and certainly needs to be upgraded. (Richard Moss, Potrero Boosters and Merchants Association)

Response

This request for a separate planning study of 16th Street has been forwarded to the City Planning Commission. At their discretion, they may direct staff to prepare a study program. It should be noted, however, that the EIR evaluates impacts specifically on 16th Street within the Project Area for projected levels of traffic volumes (see Table VI.E.26, pp.VI.E.167-VI.E.168 of Volume Two), noise levels (see Table VI.G.5, p. VI.G.20 of Volume Two) and air pollution (see Table VI.F.4, p.VI.F.18 of Volume Two) associated with the three Alternatives (and variants) analyzed.

PARKING IMPACTS

Comment

The Mission Bay EIR predicts horrendous traffic conditions for the years 2000 and 2020. The most interesting thing about this prediction is that Mission Bay accounts for only a small part of the increase in travel demand between 1985 and those years. Downtown and vicinity, and the rest of the region, account for almost all of it.

The EIR predicts there will be 26,250 more cars leaving Downtown and vicinity between 3 and

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7 p.m. in 2000 than in 1985. These would be most, but not all, of the additional cars required to be parked during the day. To do this would require 15 Fifth and Mission Garages. Where will you put them? No corresponding figures are given for the year 2020. It would be interesting to know why. (Norman Rolfe, San Francisco Tomorrow)

Response

The future supply for long-term parking spaces required to serve vehicular travel demand Downtown & Vicinity can be deduced two ways. One way is to compare the magnitudes of future and current vehicular outbound travel from the Downtown & Vicinity during the p.m. peak period. The other way is to compare the magnitudes of future and current parking supply against those magnitudes of vehicular travel demand.

The regional screenline forecasts were presented in the EIR (see Tables VI.E.10 and VI.E.15, pp. VI.E.87-VI.E.88 and VI.E.108-VI.E.109, respectively, of Volume Two). The forecasts of vehicular travel to other parts of San Francisco, travel not crossing a regional screenline, are from background information available for public review at the Office of Environmental Review, 450 McAllister Street. About 14,100 more cars are projected to leave the Downtown & Vicinity between 4:00 and 6:00 p.m. in 2000 than in 1985. (It is not clear how the commenter derived the figure of 26,250 vehicles leaving between 3:00 and 7:00 p.m. because no such information was presented in the EIR.) Also contrary to the Comment, year 2020 volumes are shown in Table VI.E.15 of the EIR. About 24,100 more vehicles are projected to leave Downtown & Vicinity between 4:00 and 6:00 p.m. in 2020 than in 1985.

Further review of the information presented about outbound vehicular demand indicates that it is travel by residents of San Francisco that would comprise the bulk of vehicular travel demand to/from the Downtown & Vicinity. Due to the congested conditions projected on regional bridges and freeways throughout at least the two-hour peak period, very few additional vehicles (about 1,920 forecast in the EIR) would be able to travel from the Downtown & Vicinity toward other counties during 4:00-6:00 p.m. peak period between 1985 and 2000. On the other hand, approximately 12,200 additional vehicles are assumed to travel between the Downtown & Vicinity and other parts of San Francisco (which does not require accessing freeways) during the same time period. Some of that additional vehicular demand and the related parking

demand could be curtailed if more trips were made on MUNI; this was not assumed in the EIR.

Possible requirements for parking are identified in Table XV.E.3, which compares current parking supply and future parking demand. Most of that parking demand would represent vehicles requiring long-term (off-street) parking spaces. If no additional parking spaces are provided outside Mission Bay, a conservative assumption, approximately 3,200 to 8,800 parking spaces would be required if there were no shifts from vehicles to MUNI travel. By 2020, that deficit would increase to approximately 11,700 to 17,600 for the same assumptions.

Such a parking deficit for the Downtown & Vicinity would not be likely for three major reasons:

1. Mode shifts to MUNI by residents of San Francisco traveling to the Downtown & Vicinity are likely.
2. Some net additional parking supply is likely to be created as part of new development, particularly that which occurs outside the C-3 districts.
3. The level of economic activity forecast in the EIR may not be reached if there are limitations on both parking supply and MUNI capacity to accommodate a greater proportion of travelers to the Downtown & Vicinity.

Comment

The DEIR points out that, "By 2020 there would be a deficit in parking of almost 1,000 spaces for Alternative A and almost 300 spaces for Alternative B" (Vol. I, p. II.48). This deficit does not appear to account for the need for parking at recreational facilities. (Approximately 500 spaces are available at Marina Green.) A deficit of parking would limit opportunities for use of the facilities and particularly for special events and would result in persons parking vehicles in fire lanes and access roads in the project area. (Mary E. Burns, San Francisco Recreation and Park Department)

Response

The EIR acknowledges that some all-day and short-term parking is likely to be needed for open space and recreation facilities, depending on the types of activity planned for those facilities (see p. VI.E.163 of Volume Two). Parking for the open space or recreation facilities should be

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TABLE XV.E.3: POSSIBLE PARKING SUPPLY REQUIREMENTS FOR DOWNTOWN & VICINITY

	1985	2000	1985- 2000	2020	1985- 2020
Parking Supply	48,000/a/ 50,000/c/	56,200 Alt. A/b/	(+6,200)	57,750 Alt. A/b/	(+7,750)
Vehicle Trips/d/ (Parking Demand) by Downtown & Vicinity Travelers	45,300	59,400 Alt. A	(+14,100)	69,400 Alt. A	(+24,100)
Possible Parking Deficit Without Increases in Supply Outside Mission Bay	0	approx. 3,200/e/ to approx. 8,800/f/		approx. 11,700 to approx. 17,600/f/	

- /a/ Source: S.F. Department of City Planning Inventory of Off-Street Parking Spaces, 1987, for C-3, Civic Center and South of Market.
- /b/ Assumes no increases in parking supply outside Mission Bay.
- /c/ Includes additional space available in Mission Bay.
- /d/ Forecasts of vehicles leaving Downtown & Vicinity between 4:00 and 6:00 p.m.. These vehicles represent the parking demand that would have to be served by long-term parking supply.
- /e/ If all parking supply is fully utilized.
- /f/ If 90 % of parking supply is utilized, as in 1985.

included in the design process to ensure the supply responds to the size and intended use of the development. Table VI.E.29, on p. VI.E.185 of Volume Two, assumes that community facilities in the Project Area, including recreational facilities, would generate parking demand at a ratio of one space per 1,000 square feet of gross building floor area. However, no estimate of parking demand was made for open space areas alone. The EIR indicates that peak parking demand related to open space and recreation facilities generally occurs in the evening after work, or on weekends, when off-street as well as on-street parking is likely to be available (see p. VI.E.163 of Volume Two).

The EIR assumes one space per 1,000 square feet of gross community facility building area was required and provided in Alternatives A and B, but a shortage of about 20 spaces would occur in Alternative N. Mitigations were recommended jointly for this and the other parking impacts identified (see year 2000 Mitigation Measures E.5, E.14, E.14a-E.14.d, E.15, and E.18d, p. VI.E.201 and pp. VI.E.207-VI.E.210; and year 2020 Mitigation Measures E.34, E.34a-E.34c, pp. VI.E.222-VI.E.223 of Volume Two).

Comment

Parking will continue to be an almost insurmountable problem. If the development itself provides adequate parking for its residences and good Muni transportation is provided for downtown, commuters from [the] South Bay will probably clog the streets of the development with their own cars and take Muni downtown. This will probably bring on parking meters within the development.

As far as I can see, "Intercept Parking" will be the most difficult problem for our neighborhood. South Bay commuters will take the available parking on the hill and take Muni to their ultimate work destinations. We do have very good Muni service on the hill and easy access to the freeways south for the return commute. It is already a problem for those neighbors living close to San Francisco General and will undoubtedly spread to the rest of the hill.

We will suffer the same problems as North Beach and the other neighborhoods that are clogged with North Bay commuters. Neighborhood parking stickers seem to be the only current

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viable alternative, but this system is unsatisfactory to most residences. (Glenn Gollihur)

Response

Intercept parking currently exists in Mission Bay and could be perpetuated, depending on which land use program is approved, by provision of additional parking supply and transit service in the Project Area. The amount of intercept parking in the Project Area, however, would be affected by parking demand generated by new Mission Bay development.

Spillover parking impacts from Mission Bay, whether generated by new Mission Bay development or intercept parking demand, would not likely be a notable problem until after the year 2000. That is because there would continue to be undeveloped parcels in the Project Area that could be used for interim parking lots. The most likely areas to be affected by overflow parking demand as Mission Bay becomes more fully developed are the South of Market, and the Showplace Square and North Potrero showroom-industrial areas generally east of DeHaro between King and 16th Streets, or east of Arkansas between 16th and Mariposa Streets. These areas would be within walking-distance proximity to the new MUNI Metro line along the western side of the Project Area, and thus could be attractive for intercept parking by commuters destined for downtown San Francisco.

It is unlikely that the bus routes serving downtown from the Potrero Hill neighborhood would attract a substantial amount of intercept parking demand. It is possible some drivers could be attracted to park in Potrero Hill, particularly if MUNI Metro service is extended to the vicinity of 16th Street, as included in Variant 12 (Development Agreement Application). (See XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46 for a full evaluation of that variant.) However, the longer distance (and travel time) from the downtown, hilly topography and lower frequency of transit service relative to that proposed for the Mission Bay area would reduce the attractiveness of Potrero Hill as a major destination for commuters.

It is difficult to identify potential impacts in great detail for such a distant time frame. It should be noted that future regional travel patterns between 2000 and 2020 would influence the type and extent of local parking impacts. Congested conditions projected on portions of the regional freeway system serving San Francisco would affect the number of drivers destined to

downtown San Francisco, unless regional mitigation measures are adopted and implemented. To the extent that Mission Bay parking demand would exceed parking supply, as presented in the 2020 EIR analysis (pp. VI.E.184-VI.E.187 of Volume Two), mitigation measures have been identified (see Measures E.34a-E.34d, pp. VI.E.222-VI.E.223 of Volume Two).

To provide more information on spillover parking impacts in 2020, the following sentence is added to the end of the last paragraph on p. VI.E.186 of Volume Two:

- **The overflow parking demand would likely affect the port area east of the Project Area, the South of Market area, and the industrial showroom district of Showplace Square and North Potrero Hill to the west and south of the Project Area.**

The second-to-last sentence in the top right-hand paragraph on p. II.48 of Volume One also is revised to further describe spillover parking impacts, as follows:

- **There also would be competition for parking between Mission Bay, Showplace Square, North Potrero Hill, South of Market, and uses east of China Basin Street.**

Comment

Parking Deficiencies. The DEIR observes: "By 2020, however, the parking deficits would be greater, almost 1000 spaces in Alternative A and almost 3000 spaces in Alternative B. Competition for parking, particularly under Alternative A, would spill over into residential sections of the Project Area." (Vol. 1, Chap. [II., p.] II.48; See also Vol. 2, Chap. [VI.E, pp.] VI.E.159-164; Vol. 3, Chap. [XIV.E, p.] XIV.E.31.) We question whether that parking deficit is correctly calculated. The DEIR shows a deficit of 208-264 parking spaces theoretically required for riders of CalTrain by the year 2000, with a 208-316 parking space deficit by the year 2020. These numbers, however, were derived by a survey of CalTrain riders in October, 1987 at 4th/Townsend Streets with the survey finding "4% of daily boarding passengers drove alone to the station." (Vol. 3, Chap. [XIV.E, p.] XIV.E.31.) This 4% was then used as the multiplier of daily riders to come up with the projected demand of 208-316 parking places for CalTrain riders. These CalTrain rider parking demand statistics were, then, included in the overall calculation of the parking demand under Alternatives A and B. However, it is the policy of the City and County

of San Francisco to restrict parking spaces at transit stops, in order to encourage the use of Muni as a feeder service. See, for example, the Master Plan of the City and County of San Francisco, Transportation Element, "City-Wide Parking Plan," Objective 10, Policy 3, which states "restrict long-term automobile parking at rapid transit stations in the City in favor of effective feeder bus service."

Thus, to the extent that the CalTrain service contributes to the parking demand, the DEIR should recognize that satisfaction of that demand is contrary to public policy. Moreover, as it does with a number of communities along the Peninsula commute line, CalTrain should serve as the provider of parking lots for commuters, not the Mission Bay project as a whole. (James W. Augustino, Santa Fe Pacific Realty Co.)

Response

In addition to the policy pointed out by the commenter, this is implicit in several other policies in the Transportation Element of the City's Master Plan which support the need to maximize use of public transit.

The current share of riders who drive to CalTrain (and therefore park at the terminal) was used to forecast future demand. Potential parking demand must be identified in the EIR, whether or not a jurisdiction attempts to discourage it. Whether the City adopts mitigation measures to offset that parking demand is determined by decision-makers for the Mission Bay Project. On the basis of policies in the Master Plan or other circumstances, they may elect to reject mitigation measures at the time a decision is issued for the project.

To clarify this point in the EIR impact analysis, the following text changes are made. On p. VI.E.162 of Volume Two, the following text is inserted as a new third paragraph:

- It should be noted that, in spite of potential parking demand generated by CalTrain patrons, the provision of parking at the CalTrain station would not respond to existing Master Plan policies that encourage the use of local transit to reach regional transit systems in San Francisco. However, the mitigation section indicates what parking supply rate would be needed to offset that parking demand.

On p.VI.E.186 of Volume Two, the paragraph at the top of the page is revised to include the following:

- As for the year 2000, provision of parking at the CalTrain station would not respond to existing Master Plan policies that encourage the use of local transit to reach regional transit systems in San Francisco. However, parking deficits generated in the Project Area in 2020 could be reduced or eliminated with the following methods:

For further consideration of parking standards for CalTrain, see paragraphs 11 and 12 in the Response on pp. XV.E.43-XV.E.45.

CALTRAIN RELOCATION AND EXTENSION

Comment

In both Alternatives A and B, the CalTrain Depot would be relocated further from downtown San Francisco (p. VI.E.101). It is reasonable to expect that this would cause a decline in CalTrain patronage and thereby work at cross purposes to the regional goal of shifting commuters from single occupant vehicles to transit and ridesharing. (Jerome Kuykendall, Golden Gate Bridge, Highway and Transportation District)

Response

A decline in CalTrain patronage would result from relocation of the CalTrain terminal from its present location at Fourth and Townsend Streets to the proposed location at Seventh and Channel Streets with Alternatives A and B (see p. VI.E.101 of Volume Two). While there is some disagreement about the magnitude of the decrease, the transportation analysis in the EIR is based on the most conservative (i.e., highest) forecast of ridership decline due to this proposal. (A discussion of other CalTrain ridership projections is presented on p. VI.E.102 of Volume Two.) About half of the ridership lost by CalTrain is projected to shift to BART and SamTrans (see p. VI.E.102). The remaining half of the lost ridership is forecast to shift to private auto. To the latter extent, the relocation of the CalTrain terminal would not be consistent with certain State of California and Bay regional transportation goals.

Comments

We would supplement the Caltrans comments on the document's CalTrain issues by underscoring the Department's serious concerns about Santa Fe Pacific Realty Company's claims of ownership of operating property, and the transfer of Fourth

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and Townsend station from Southern Pacific to Santa Fe Pacific Realty. Caltrans' comments on potential relocation of the terminal to Seventh and Channel streets include most of the key issues that have been identified to date. From the perspective of the Joint Powers Board, however, the issue of ridership decline which may or may not result from a move to Seventh and Channel is not relevant.

Local agencies comprising the JPB are expected by the State Administration to provide total support for the rail program after the present term of the Caltrans-S.P. operating agreement expires in 1990. This support is substantially beyond the scope of local resources unless there is a significant increase in ridership and revenues. Studies to date have concluded that this increase is possible only with a major upgrade in service levels and a new San Francisco terminal accessible to downtown job sites. Preservation of Peninsula Rail Service, as a result, will not be possible by local agencies at the present station. A Seventh and Channel location, or any other site more remote from downtown job centers, further impacts the prospects for continued commute service. (Tom Nolan, Peninsula Corridor Study Joint Powers Board)

Regarding CalTrain, Volume I, page I.2, before final approval of the EIR occurs, the City of San Francisco should be aware of Caltrans' legal concerns and what the State sees as Santa Fe and Southern Pacific's contractual obligations. Caltrans questions the premise behind Alternatives A and B which include relocation of its CalTrain terminal to 7th and Channel Street. This relocation may not be legally permissible for the following two reasons:

1. Santa Fe Pacific Realty Co. has claimed ownership of operating property in violation of Interstate Commerce Commission (ICC) regulations, which state that only property and/or facilities not directly connected with operations may be acquired by the holding company.
2. By transferring the 4th and Townsend station area, along with ten other stations on the peninsula to the Santa Fe Pacific Realty Co., the Southern Pacific Transportation Company (SPTCO) may have been in violation of the Caltrans/Southern Pacific Transportation Company master agreement wherein Caltrans has exclusive "first right of purchase" of stations and station property. Caltrans made an offer of seven million dollars in "earnest" money on those eleven stations. Because this offer was rejected,

arbitration proceedings have begun as provided for by our master agreement with Southern Pacific.

Caltrans' public position during the Mission Bay planning process has been that it would not agree to a terminal relocation to the 7th and Channel Street without proper mitigation. As represented in Alternatives A and B, the proposed mitigation is inadequate. After the above matters are resolved, Caltrans has further environmental concerns regarding CalTrain as outlined below. (Gary Adams, Caltrans, District 4)

Response

The statements regarding Caltrans' and the JPB's view of the legal question of ownership and/or transfer of the CalTrain station property to Santa Fe Pacific Realty Corporation (SFP) cannot be resolved in the EIR. The EIR analysis for Alternatives A and B incorporates the assumption of relocating the CalTrain terminal from Fourth and Townsend Streets to Seventh and Channel Streets. However, Variation 9 (CalTrain Station Location), on pp. VII.51-VII.54 of Volume Two, Chapter VII. Variations on Alternatives, addresses the transportation implications of maintaining an underground station at Fourth and Townsend Streets. If, for legal or other reasons, the Seventh and Channel station were to become infeasible and the current location maintained, the ridership effects of retaining CalTrain service at Fourth and Townsend Streets with the land use programs contained in Alternatives A and B would be covered in this variation in the EIR. For further discussion of ridership impacts related to the location of the CalTrain station, see the Response on pp. XV.E.31-XV.E.32.

Comment

Regarding CalTrain, Volume I, page II.26, movement of the terminal to 7th and Channel Street would also require approval by MTC, Caltrans, Peninsula Corridor Study Joint Powers Board (JPB), Santa Clara and San Mateo counties. On page II.47 land use Alternatives A and B propose that the CalTrain terminal be relocated from Fourth and Townsend Street to Seventh and Channel Street, or, alternatively, to an underground location at Fourth and King Street (Variation 9, page II.112). In either case, the operation of the CalTrain service in the terminal area would be significantly altered, resulting in environmental impacts that are not addressed in the report. Neither of the proposed terminal sites has the space available to handle existing mid-day train storage and servicing

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requirements. To meet these needs, a new facility would have to be constructed away from the terminal area. Wherever this facility is located, there will be an impact on the area immediately surrounding it. Furthermore, there will be adverse impacts on surface traffic flow, air quality, and noise, resulting from the additional train movements that will take place between the terminal and the storage/servicing area.... (Gary Adams, Caltrans, District 4)

Response

It is true that any change in the location of the CalTrain station would involve approvals from MTC and Peninsula counties, all of which are included in the Peninsula Corridor Study JPB. For more information on the JPB and its involvement in planning for future commute rail service to the Peninsula, see also the Response on pp. XV.E.27-XV.E.29.

To address Comments regarding the design and operation of a new station at Seventh and Channel Streets, an interim station design has been identified for review by representatives of Southern Pacific Transportation Company (which currently provides CalTrain rail service under contract to Caltrans), Caltrans, SFP, and the City and County of San Francisco.

The station design is predicated on train maintenance activities (some of which currently occur in the railyard at the Fourth and Townsend station) being consolidated outside the Project Area. This assumption is consistent with a program included in CalTrain's Capital Plan in its 1988-1993 Five-Year Plan. Studies conducted for CalTrain indicate that current decentralized maintenance activities are costly and are conducted with inadequate equipment and facility resources./2/ The study recommends consolidation of these maintenance facilities in order to reduce operation costs. Subsequent analysis of alternate sites has focused on a site in San Jose.

The interim station design, which provides for six station platform tracks and up to seven tracks within the Project Area, would accommodate all presently scheduled arrivals and departures (involving 52 trains daily), except that additional train shuttles to and from the station would be required during peak hours. As a result, use of additional storage tracks south of 16th Street (probably at Southern Pacific's South San Francisco railyard) would be required to accommodate shuttling of two trains for their scheduled runs in the a.m. and p.m. peak hours. The station design also would require about nine

feet of the 82-foot-wide Seventh Street right-of-way. In order for this to be accommodated, one parking lane, probably on the west side of Seventh Street, would have to be eliminated between Hooper and 16th Streets.

Given this configuration, representatives from Southern Pacific Transportation Company currently responsible for providing passenger rail service indicate this is a functional station design for continuing the level of service currently provided on the 52-train daily schedule. If service were to be increased, involving operation of more trains, this station design would not be adequate./3/ The station plan also was submitted to Caltrans staff for review, but there has been no response to date.

In light of the two additional train movements that would be required to cross 16th Street during the p.m. peak hour, the EIR analysis for the intersection of Seventh and 16th/Mississippi Streets has been revised. The changes in levels of service for that intersection, shown in Table VI.E.23, on p. VI.E.144 of Volume Two, for the year 2000, and in Table VI.E.26, on pp. VI.E.167-VI.E.168 of Volume Two, for the years 2000 and 2020/build-out, are as follows:

2000

	V/C	LOS	%
• Alt. A:	0.82	D	10
• Alt. B:	0.85	D	10
• Alt. N:	0.68	B	5

2020 / Build-out

	V/C	LOS	%
• Alt. A:	0.67	B	10
• Alt. B:	0.78	C	15
• Alt. N:	0.73	C	10

The Levels of Service for this intersection in 2020 for Alternatives A and B improve above conditions projected in 2000 due to development of a street segment after 2000 that extends Owens Street south to Mariposa Street. The Level of Service projections above are based on the assumption that the trains shuttled through the intersection are traveling at a speed of five miles per hour. This point is added to Tables VI.E.23 and VI.E.26 in a new footnote, /1/, pertaining to the Seventh and 16th/Mariposa intersection:

- */I/ The Level of Service projections take into account the effect of CalTrain shuttles through the intersection to access the Seventh and Channel Street station. It is assumed the trains would be traveling at a speed of five miles per hour for those shuttle movements.*

The reference mark for this footnote is added after the name of that intersection, under "Unsignalized Intersections in Project Area" in the left-hand column in both Tables VI.E.23 and VI.E.26:

- **Seventh and 16th / Mississippi /I/**

(Additional changes to Tables VI.E.23 and VI.E.26 are shown in the Staff-Initiated Text Changes on pp. XV.E.48-XV.E.49. The revised tables are shown on pp. XV.E.50 and XV.E.51-XV.E.54, respectively.)

The level of train service (52 trains daily) is consistent with the amount of service assumed in the EIR travel demand analysis for year 2000 (and 2020). Should decisions by the JPB result in the extension of CalTrain service to downtown San Francisco, the station requirements at Seventh and Channel, which would function as an intermediate station stop rather than a station terminus, would most likely change. Such considerations are included in the larger set of issues currently under review by the JPB, which is evaluating alternatives for improving and expanding CalTrain service to the Peninsula.

It should be noted that the Mission Bay EIR, as a program EIR, focuses on land use choices under consideration for the Project Area; it does not evaluate associated construction-level or detailed operational impacts in the absence of more specific building and engineering designs. Development phases of the project, accompanied by specific building proposals, will be subject to additional environmental review, whereupon associated impacts such as air quality and noise would be analyzed.

Comments

An UMTA-sanctioned EIS/EIR is now underway for the proposed San Francisco station relocation. We strongly recommend that information developed in this project be incorporated, as time permits, in the final EIR for Mission Bay. (Tom Nolan, Peninsula Corridor Study Joint Powers Board)

[By unanimous vote of the Board of Supervisors and [signature] by the Mayor on July 28, 1988, [a resolution was adopted] endorsing MTC's transit improvement

plan . . . which includes extension of the Peninsula Commute Service from Fourth and Townsend to a downtown terminal. This expression of support is qualified only by a call for an analysis of all feasible transportation modes and routes. This condition was inserted for the purpose of assuring that routes other than that proposed by Caltrans (the Transbay Terminal route) be considered and that alternatives such as electrification (as opposed to diesel) be considered.

I hope this makes it clear that the downtown extension is official policy of the City and County of San Francisco.

. . . My sources inform me that it is "highly unlikely" that San Mateo or Santa Clara would participate in that event [the event that CalTrain operated out of a station located at Seventh and Channel Streets], and that the State of California has made it clear that it would not continue to fund the service. (Stephen Taber)

. . . On page II.54 the discussion of CalTrain's future assumes that CalTrain can survive initial ridership losses associated with a move to 7th and Channel Street. This may not be possible. The report should discuss the environmental impacts of the different alternatives as well as no train service to San Francisco from the Peninsula. (Gary Adams, Caltrans, District 4)

One of the most serious flaws in this EIR is the shabby treatment given the CalTrain Downtown Extension. It is cavalierly brushed off. Yet, while this EIR was being written, consultants to the Peninsula Corridor Joint Powers Board produced reports outlining Downtown Extension Alternatives, upgrading of the service (e.g. - electrification, increasing frequency to rapid transit type levels), and a Bayshore Corridor local rapid transit service on this line. Work started on an EIS for the Downtown Extension. MTC included it in its New Rail Starts Program, and the San Francisco Board of Supervisors made it official City policy by Resolution 594-88. Your staff may claim the last item occurred too late to be included in this EIR, but the other events occurred in sufficient time to alert them to the fact that this proposal was as close, if not closer, to reality as others given more weight in this EIR. Several consultants, including yours, have predicted that these improvements would lead to a quintupling of CalTrain patronage - to about 50,000 per day. This is a prime mitigation measure, yet it has been brushed off.

The EIR should not be certified until it has been revised to properly evaluate this project and the effects it will have on future highway congestion, transit patronage, and parking demand.

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Instead, the EIR insists on assuming that CalTrain will be cut back to Seventh and Channel Streets. This would kill CalTrain. It would cause such a severe loss in patronage that this service would be abandoned. This is the reality of that proposal. It would have really adverse environmental impacts. This EIR should not be certified until the effects of that on future highway congestion, transit patronage, and parking demand have been evaluated.

The Mission Bay Plan will have to be revised to include the CalTrain line going through the project area, with a way station for Mission Bay.

Incidentally, they wouldn't just be simply extending that line downtown. It would... [include] electrifying it, putting in frequent service, and, of course, going downtown, perhaps including some sort of local rapid transit service to the southeastern part [of] the City on it. (Norman Rolfe, San Francisco Tomorrow)

[On] p. [VI.]B.99 [the EIR states:] "The effects of Alternative N on CalTrain operations in the Project Area would be different from those of the other Alternatives. In Alternative N, CalTrain tracks and station would remain in their current locations with the station at Fourth and Townsend Streets. MUNI-Metro would be extended to meet CalTrain at the Fourth and Townsend station. CalTrain maintenance facilities and associated employment also would remain in the Project Area."

None of the three alternatives adequately addresses CalTrain. It is in the best interest of SF and the region that CalTrain extend downtown. There is no good reason to move the station further south, or give up any employment that is generated by CalTrain. (Jim Firth, Mission Bay Clearinghouse)

CalTrain. The draft EIR considers the broad questions concerning CalTrain only from two perspectives: (1) the location of the station (end of the line terminal) viewed as a choice between the existing site on 4th and Townsend streets and a proposed above-ground new station on 7th and Channel streets; and (2) should the Mission Bay Project ("Project") be planned with a dedicated future right-of-way for an underground extension of CalTrain to a new downtown terminal?

I believe that these two areas of inquiry are a grossly inadequate start on what should be viewed as a major, significant land use and transportation issue. In reality, the decisions on the broader questions concerning CalTrain will probably determine (1) whether the Project is physically isolated from the neighborhoods to the

west and south; (2) whether the best siting and land use policies can be carried out within the Project; and (3) whether CalTrain will remain a viable, if not significantly expanded transportation resource for the residents of both the Peninsula and San Francisco. (Richard H. Moss, Potrero Boosters and Merchants Association)

CalTrain Terminal Relocation to 7th and Channel. We believe the EIR accurately reports the status of current regional plans and recommendations relative to the selection of the long-term CalTrain terminal in San Francisco. Whether the terminal is relocated to 7th and Channel or some other location closer to the downtown is the subject of the CalTrain Downtown Extension EIS, which is just being initiated with planning funds made available through the Urban Mass Transportation Administration. Recommendations from the SCR 74 Study call for preserving the right-of-way for a downtown CalTrain extension within Mission Bay and beyond to downtown San Francisco. The need for preservation of the right-of-way and the timing of construction of a downtown extension will depend on the outcome of the EIS and the ability of the City and County of San Francisco, and the San Mateo and Santa Clara County transit districts to develop the necessary local funding as outlined in the MTC New Rail Start's Program. (Chris Brittle, Metropolitan Transportation Commission)

Response

Issues surrounding the interrelationship between planning for Mission Bay and retention or extension of CalTrain service through the Mission Bay Project Area are very complex. A relocation of the CalTrain station to Seventh and Channel Streets is proposed by the City and SFP, the Mission Bay project sponsor. This component of their Mission Bay proposal raises the broader policy issue of whether and by what measures CalTrain service could be extended from Seventh and Channel to downtown San Francisco.

Though the Mission Bay EIR analysis includes a base assumption that the station would be relocated to Seventh and Channel Streets in Alternatives A and B, it implicitly addresses the public policy objective of extending CalTrain service downtown by including Variation 9 (CalTrain Station Location), on pp.VII.51-VII.54 of Volume Two, Chapter VII. Variations on Alternatives. That variation is to retain CalTrain service at an underground station in those Alternatives at Fourth and King Streets, one

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major condition that would be necessary to permit both the extension to downtown San Francisco and full development of Mission Bay. The full range of impacts associated with the downtown extension involves regional transportation issues affecting the entire South Bay peninsula that extend well beyond the scope of the Mission Bay EIR. Those issues, such as ridership effects, train storage, and alignment of the extension, are currently being addressed in a separate EIS being prepared by the JPB. The expected publication date of that EIS is estimated to be sometime in 1990. If that document is published prior to certification of the Final EIR for Mission Bay, pertinent information relating to CalTrain service through or within the Project Area can be incorporated.

The extension of CalTrain service to downtown San Francisco was not assumed in the base impact analysis at the time the EIR was being prepared, because there was considerable political and financial uncertainty surrounding the issue at the time. However, portions of the EIR analyses regarding future traffic congestion in the South Bay come to an independent conclusion that provides the basis for recommending the retention of an underground tunnel to enable continued operation of a CalTrain station at Fourth and Townsend; this is identified as a mitigation option (in Measure E.9a, p.VI.E.203 of Volume Two) in year 2000. Additionally, the EIR identifies the downtown CalTrain extension as a mitigation measure (Measure E.37, pp.VI.E.230-VI.E.231 of Volume Two) to respond to the even higher congestion levels projected to occur beyond 2000.

With more recent events resulting in the CalTrain extension being included in MTC's New Rail Starts Program, and with that project gaining the approval of San Mateo County voters, this improvement may be closer to reality than indicated in the Draft EIR. In the event CalTrain is extended earlier than the beyond-2000 time horizon suggested in the EIR, its benefits would help mitigate highway congestion problems sooner rather than later.

A Seventh and Channel Street station, if it were to become the new San Francisco CalTrain terminus, would be in conflict with adopted policies in Caltrans' current five-year plan and MTC Resolution 1876, both of which advocate the extension of CalTrain service to downtown San Francisco. This is acknowledged in the EIR, in the section addressing the "CalTrain Extension," pp. VI.E.191-VI.E.193. In light of that, Caltrans and the JPB, the multi-jurisdictional group (which includes Caltrans and MTC) charged with studying the costs of a CalTrain extension, have expressed

their doubts that a new terminus at this location could maintain funding from local sources and passenger fare revenue to continue CalTrain service along the Peninsula.

If there were no CalTrain service, the following changes in travel demand could occur in year 2000:

1. About half of the peak-period travelers who would otherwise have been on CalTrain would switch to BART or SamTrans, based on the travel forecasts used in the EIR. Approximately 1,800 peak-period and 1,200 peak-hour additional travelers would shift to those other available transit modes. (See Table VI.E.11, pp. VI.E.94-VI.E.95 of Volume Two.)
2. The remainder of the peak-period travelers who would otherwise have been on CalTrain would shift to using their private vehicles on Highway 101 or I-280. Approximately 1,800 peak-period and 1,200 additional peak-hour travelers would shift to auto travel.

These projected shifts in travel demand would have the following impacts:

1. BART and SamTrans would have sufficient planned capacity to accommodate the additional riders. There would be no significant impacts on peak-period or peak-hour levels of service provided by either operator, if each operator were to receive half of the total shift to other transit services.
2. The number of year 2000 peak period vehicles exceeding the capacity of Highway 101 at the San Mateo County line would increase from about 1,550 to about 2,300 with Alternative A, and from about 1,250 to about 2,000 with Alternative B. The extent of time during which U.S. 101 would be operating at capacity during the afternoon would therefore extend for over three hours. These estimates are based on a 50-50 split in vehicular travel between Highway 101 and 280, and a 1.2 average peak period occupancy per vehicle crossing this screenline.
3. I-280 would continue to operate below capacity at the San Mateo County line during the two-hour peak period in the year 2000, but the additional travelers would increase the number of peak period vehicles on this freeway. The total volume would increase from about 12,450 to about 13,200, causing the level of service to decrease. The decrease would be from LOS C ($V/C = 0.78$, approximately) to LOS D ($V/C = 0.83$,

approximately). The duration of the period during which I-280 would operate at capacity would increase from less than one hour to about 1.5 hours.

Since publication of the Mission Bay Draft EIR, the San Francisco Board of Supervisors adopted Resolution 594-88, endorsing MTC's New Rail Starts and Extension Program, which includes a CalTrain downtown extension as one of four specific transportation improvements identified. (The Board previously had expressed its support of a downtown extension in an earlier resolution, #242-87, April 9, 1987, which also included a provision for an interim relocation of the CalTrain station in the vicinity of Seventh and Channel Streets.) With the JPB studies and EIS process under way, more information on this issue will be available to evaluate objectively the merits of such an undertaking. Such information, if the conclusion is to pursue a CalTrain downtown extension, will provide a necessary foundation upon which subsequent negotiations and decisions regarding land transfers, funding and operations would be made.

In light of this latest Board resolution relating to CalTrain service, the text below is added as the fourth sentence in the first paragraph on p. VI.E.192 of Volume Two:

- **On July 28, 1988, the San Francisco Board of Supervisors adopted Resolution #594-88 endorsing MTC's New Rail Starts and Extension Program (as amended through March 24, 1988), which includes the extension of Peninsula Commuter Service (currently CalTrain) to a downtown San Francisco terminal.**

Comment

If Mission Bay development precedes the construction of the CalTrain extension, then the right-of-way preservation policy is relevant. Two important aspects of this preservation policy are:

- Use of the King Street corridor so that an underground extension would not be blocked by buildings or other impediments, such as major utilities.
- Location of freeway ramps and Muni Metro tracks in a manner that would create the least construction difficulty for CalTrain to reach a downtown terminus.

The EIR notes that considerable cost increases and disruption to Muni Metro service could occur if the underground extension is initiated after the

Mission Bay project is developed. We would appreciate further information on specific problems the City and project sponsor would anticipate with this later construction relative to Muni Metro operations and surface street traffic. (Chris Brittle, Metropolitan Transportation Commission)

Response

Most of the unspecified issues implied by the EIR statements and referred to by the commenter relate to construction and/or operational difficulties that would occur without proper sequencing and close coordination during the design stages for each of these independent, but related, projects (i.e., I-280 improvements, CalTrain extension and Mission Bay development). Construction of the CalTrain subway, followed by construction of the I-280 ramps and MUNI Metro tracks before development of Mission Bay, would create the fewest problems. Though not all such problems can be anticipated, some can be identified now if that construction sequence were not followed. Notably, excavation of the King Street right-of-way could disrupt general access to abutting blocks in Mission Bay, depending on how much of the roadway is affected by a CalTrain extension. Access to housing and businesses along both sides of King Street would be hampered or prohibited for periods of time. This would have a negative effect, particularly on retail shops and services located there.

Those construction activities could also constrict access to portions of Mission Bay located south of China Basin Channel. In that instance, Third Street, the main cross-town arterial through that area, would have to serve more traffic. Third Street plays a role not only as a major vehicular thoroughfare; it is also an important MUNI route (15-THIRD) that provides cross-town service.

It is likely that rerouting of traffic and transit would be necessary. Additional costs also would be incurred to operate detours to other streets for vehicles that normally use the King Street ramps to access I-280. Traffic would increase on Townsend and Seventh Streets to get to the existing I-280 ramps at Mariposa Street. The incremental costs of all these actions and the viability of a plan for maintaining acceptable levels of highway and transit services during construction have not been determined.

Comment

CalTrain Relocation Mitigation. To mitigate the

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perceived potential loss of ridership due to relocation of the CalTrain station, the DEIR suggests that "CalTrain service could be extended underground to 4th and Townsend or King Streets by construction of a tunnel. Construction of that tunnel should be coordinated with the I-280 improvements to minimize traffic disruption and construction costs." (DEIR, Vol. 1, [Chapter II, p.III.48.] Since the I-280 improvements are generally scheduled to occur sooner than the construction of an underground tunnel, specific coordination may be difficult. For example, it is our understanding that the EIS for the proposed underground extension of CalTrain from Mission Bay to Market Street or the Transbay Terminal is at its very beginning stages. Conversely, the I-280 transfer concept program EIR process has been completed. (James W. Augustino, Santa Fe Pacific Realty Corporation)

Response

Differences in the timing of implementing I-280 improvements and possible CalTrain extension improvements (as well as Mission Bay development) could make coordination difficult. However, the potential benefits of saving costs and minimizing disruptions to the community by, for example, closing a street segment once for construction purposes instead of three times, make design and construction coordination a rational objective.

Although the environmental evaluations for each of the projects are at different stages, the actual construction schedules are more relevant to determining the extent to which activities can be coordinated. If not all improvements can be carried out at one time, it still may be possible for project implementation teams to take advantage of opportunities to install part of their improvements. If, for example, widening of King Street under the I-280 improvements were the first project to necessitate closing the roadway for excavation, some utility installation or preparation work for CalTrain service or Mission Bay development could be scheduled during that time.

If the I-280 improvements are completed prior to the construction of a tunnel for CalTrain in the Project Area, then coordination of these two construction projects could still include planning and engineering coordination (e.g., ensuring that the future tunnel can be easily and safely constructed beneath the I-280 improvements). If the two projects' scheduling is such that

construction overlaps, then coordination should also include scheduling, operational and traffic control during the overlap period.

The success of construction coordination will depend to a great extent on the degree to which engineering and designs for these projects can be coordinated. Plans that incorporate design option alternatives provide flexibility that allows better integration of each of the projects. Since final design and engineering have not been completed for any of the projects, it is still possible to avoid features or components that would unduly interfere or preclude implementation of any one of them.

Comment

On page II.112, Variation 9, the ridership estimates appear to be incorrect. Instead, studies show 7th and Channel produces 22% fewer riders immediately than today's 4th and Townsend station. If 4th and Townsend were relocated underground without ever moving to 7th and Channel and Mission Bay was built out, ridership would increase because of Mission Bay effects only. . . .

On page VII.52, please explain the sentence, "CalTrain's future ridership could be up to about 22% higher"; it is unclear whether this means higher than 7th and Channel Alternatives A and B or higher than today's 4th and Townsend location. If the former, then supporting documentation would need to be provided to Caltrans. If the latter, we disagree. The only significant source of ridership increase at a 4th Street terminal is Mission Bay buildout. Ridership at the existing terminal has steadily declined despite more train service, heavier traffic congestion, and downtown growth. (Gary Adamis, Caltrans, District 4)

Response

The cited sentence means "22% higher than with the station at Seventh and Channel." The first sentence of the first indented item on p. VII.52 of Volume Two, Chapter VII, Variations on Alternatives, is revised to state:

- - If the CalTrain terminal remained at Fourth and King Streets, CalTrain's future ridership at this terminal could be up to about 22% higher at that time according to one study than if the terminal were moved to Seventh and Channel Streets, as in Alternatives A and B./5a/

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A new note, /5a/, is added to p. VII.57 of Volume Two, as the source for this estimate. This new note, which follows note /5/, states:

- /5a/ San Francisco Department of City Planning, CalTrain Station Locations, Special Study for Mission Bay, prepared by Barton-Aschman Associates, Inc., September 1986.

While the EIR analysis incorporates the 22% difference in ridership levels between the two station locations, the travel demand forecasts for CalTrain reflect a modest (2% or 4% increase for the peak period and peak hour, respectively) increase in total ridership between 1985 and 2000. There are no studies known to the EIR preparers that would support the commenter's contention that ridership increase at either station location would be restricted solely to Mission Bay-related travel. Given the forecasts of increased congestion, it is reasonable to expect some increase in CalTrain ridership. The EIR assumes an increase of only 50 non-Mission Bay riders during the p.m. peak hour and 75 during the p.m. peak period between 1985 and 2000.

Comment

CalTrain Station Location. The DEIR states that "the potential difference in future ridership caused by relocation of the CalTrain terminal has been estimated in various studies to be between 5% and 22%. The greatest impact, a 22% reduction in future ridership, has been assumed in this analysis because it would result in the most conservative condition for the roadway and freeway system." (DEIR, Vol. 1, [Chapter II, p.II.J47; Vol. 2, [Chapter VI, p.] VI.E.54.) We believe that the DEIR over-emphasizes the potential impacts of the relocation of the CalTrain station on ridership. CalTrain ridership has varied over the years for a variety of reasons, as well as the location of the stations and the terminals. In essence, the "primary factors which affect travel choice are time, cost and convenience." ("Patronage Effects of CalTrain Station Relocation", DKS Associates, at 1 (hereinafter "DKS Study").) It is therefore inappropriate to emphasize merely one element, or part of one element, in determining ridership impact.

Ridership has historically fluctuated anywhere from -9.1% to +36.4% year to year since 1974, according to the Southern Pacific Transportation Company's Peninsula Commute Service annual October passenger count. . . .

The point is that station relocation is not the sole criteria for judging ridership. Relocation of the station from 4th and Townsend to 7th and Channel, assuming continued Muni bus and planned Muni Metro connections, cannot be said with certainty to necessarily result in a decline in patronage. Indeed, if improved station and operation design, such as cross-platform transfers from CalTrain to Muni Metro, expanded Muni bus turnarounds and terminal at 7th and Channel, and better Muni bus or streetcar connections to Showplace Square and Civic Center are taken into account, CalTrain patronage could remain steady and even grow after relocation. (DKS Study at 1.) (James W. Augustino, Santa Fe Pacific Realty Corporation)

Response

The decline in ridership associated with relocation of the San Francisco CalTrain station terminus further from downtown San Francisco has been the subject of several studies by specialized consulting firms. All these studies concluded that ridership would decline if the terminal were to be relocated to Seventh and Channel from its present location -- only the amount of the decrease remains uncertain.

As described in the Mission Bay EIR and cited in the Comment, the analysis assumes a 22% decrease in ridership with the station relocation. That assumption, derived from the "CalTrain Station Locations, Special Study for Mission Bay," was used in order to ensure coverage of the greatest impact that reasonably could be expected. That analytical approach is not intended to represent certainty that ridership decline would occur. It is acknowledged that many factors other than station relocation can have an impact on ridership levels. The figures quoted by the commenter, for example, include ridership increases that were influenced by the 1974 gasoline shortage. The orientation of the EIR analyses, however, is to present a conservative scenario of impacts. To conduct the impact analyses based on more optimistic assumptions would reduce the range of environmental effects covered in the EIR, and not take into account pertinent information specially published for Mission Bay.

The results of a number of on-board surveys used in several studies evaluating CalTrain station locations have been consistent, regardless of who did the survey or the survey methodology used./4/

All of those studies and surveys show the following:

1. That about 85% of CalTrain's weekday riders are traveling to/from a location north of Folsom Street, the northernmost boundary of the area considered to be within walking distance of the existing terminal.
2. That about 90% of CalTrain's weekend riders are traveling to/from a location north of Folsom Street.
3. That ridership could be up to 22% lower than at the existing terminal. This could occur if the terminal were relocated to Seventh and Channel Streets, the same number of trains were operated, the same fares were charged, and even if MUNI Metro were extended to serve the new station and other MUNI surface route service were provided.

It is acknowledged that CalTrain's ridership potential is affected not only by the location of the San Francisco terminal, but by the number of trains in service, fares, the amount of parking available at stations, fuel and parking costs, highway congestion, and development near stations. Changes in ridership on CalTrain have occurred because of decreases in fuel prices (1982: -11.7%), shortages of fuel, and steep increases in fuel prices (1979: +36.4%), relocation of the station by one block (1975: -8.7%), and increases in off-peak trains in service (1979: +2.7%).

Development of Mission Bay would only directly affect some of the factors described above. However, the main potential impact of a CalTrain station at Seventh and Channel Streets is that the terminal would be further away from travelers' destinations. In addition, the area accessible in five or ten minutes from Seventh and Channel Streets would encompass far less densely developed areas (and thus be less attractive as a transportation alternative) than from Fourth and Townsend Streets. Much of the lost ridership would be attributed to people who would otherwise walk to the Fourth and Townsend Street station. For others, moving the station to Seventh and Channel Streets would make SamTrans a more viable transit mode to and from the South Bay Peninsula.

In summary, relocation of the CalTrain terminal to Seventh and Channel Streets could cause additional delays and inconvenience for the majority of existing CalTrain riders and preclude growth in CalTrain ridership, if the same level of train service is provided.

TRANSPORTATION MITIGATION

Comment

Muni Metro Maintenance and Storage Yard. The Muni Metro light rail system may require a 7-8 acre maintenance and storage yard in the vicinity of the Mission Bay project. The EIR should discuss the potential locations and impacts on the proposed development for such a facility. (Chris Brittle, Metropolitan Transportation Commission)

Response

Pages VI.E.201-VI.E.202 of Volume Two of the EIR include a mitigation measure (Measure E.6) calling for a MUNI Metro storage, maintenance and turnback facility. Such a facility would not be necessitated solely by the extension of Metro service proposed for Mission Bay; it is required in order for MUNI to increase its operational efficiency in providing Metro service to the entire City.

Because Metro service through Mission Bay is proposed to extend to the west side of the Project Area, siting requirements for the storage, maintenance and turnback facility would dictate a location near the southwest corner of Mission Bay, or somewhere further south. The construction of such a facility would displace existing uses or those planned for the site of choice.

XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46, presents an analysis of Variant 12 (Development Agreement Application), which has been added to Chapter VII. Variations on Alternatives, in Volume Two of the Mission Bay EIR. That variant includes the provision of a maintenance and storage facility for MUNI Metro at 16th and Owens Streets. General land-use-related impacts of that facility on development in Mission Bay and the vicinity are discussed there. The construction- and operation-related impacts of such a yard would be the subject of a separate environmental evaluation once project details and design are known.

Comments

... We are in agreement with the view that public transportation service to the proposed project site must be increased. By themselves, the 150-275 additional AC Transit transbay passengers projected as a result of Mission Bay would probably not strain our existing transbay capacity. However, the combined impact of

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Mission Bay and projected development in downtown San Francisco might require additional AC Transit bus service. If this is the case (and indeed, the Draft EIR assumes an eight percent increase in AC Transit transbay vehicle trips by the year 2000), it will be important to establish a funding mechanism for the additional service. One possible source of funding would be San Francisco's Transit Impact Development fee. (Don Larson, AC Transit)

Provision of transit services for . . . [additional] passengers [generated by Mission Bay development as indicated on p. VI.E.119] will increase the equipment needs and operating deficits of the District. It is suggested that consideration be given to the projects assisting in the funding of Measures E.20 (adding transit vehicles) and E.21 (creating new park-and-ride facilities) in amounts proportional to project generated impacts. The city of San Francisco might consider the establishment of a mechanism whereby commercial or residential development projects contribute to regional transit development. (Jerome Kuykendall, Golden Gate Bridge, Highway and Transportation District)

Response

In light of the congested levels projected for practically all parts of the transportation system in the EIR impact analyses, the corresponding mitigation section focuses on what must be a regional approach to reducing or eliminating them. The City and County of San Francisco, like all Bay Area jurisdictions, will have to contribute a fair share to that effort in order to improve service and operating conditions. At this time, however, it is not possible to determine specifically how that additional support would be instituted. It is possible that, with certain amendments to existing legislation, San Francisco could generate funds through the Transit Impact Development Fee ordinance. Other funding strategies in which San Francisco (or other communities) could participate include higher bus fares, which is what typically has occurred in the past. Increase in AC Transit and Golden Gate Bus service is normally part of MTC's Five-Year Regional Transportation Improvement Program, funded by various revenue mechanisms (e.g., farebox, sales and gas taxes). It has been a general presumption of transit service providers that increased service be provided where adequate ridership demand is exhibited. Any ultimate funding arrangements to accommodate such additional demand will require consideration in the regional (MTC) transportation forum of such issues as service needs of patrons, and additional revenues generated for AC and Golden Gate Transit.

Comment

. . . At the current TIDF rate of \$5 per square foot of increased office use, development of Mission Bay would yield the following maximum Transit Fees:

	<i>Office</i>	<i>Sq. Ft.</i>	<i>Transit Fee</i>
Alternative A	4.1 million	\$20.5 million	
Alternative B*	0	\$ 0.0	
Alternative N	1.0 million	\$ 5.0 million	

* None of the proposed office development in Alternative B occurs within the existing TIDF boundary lines.

Given the long timeframe of Mission Bay development (30+ years) it is impossible to determine what future Transit Fee rates would be in effect at various stages of project build-out. The figures cited in the table above probably reflect the minimum amount of Transit Fees that would be collectively due from property developers. More precise determination of Fee amounts would be made on a building-by-building basis during the development phase, as prescribed by law.

If Alternative B is the selected development alternative, some questions could be raised as to the amounts of TIDF funds which could be lawfully spent on transit improvements in the project area. Technically, no additional peak service demand would be created under Alternative B, because all office development would occur outside of the TIDF boundaries.

The City Attorney should review this issue and make a ruling when MUNI spending plans for relevant projects are considered. Potential projects which could be affected by this question include the purchase of additional LRV's, Metro Extension, and development of the Metro East Light Rail maintenance facility. (Leonard Tom, Public Utilities Commission)

Response

Currently, the TIDF boundaries cover only that portion of the Mission Bay Project Area north of China Basin Channel. Thus, any office development occurring there would be required to meet the TIDF fee obligations applicable at that time. Although the TIDF fee would pay for increased MUNI service which would help mitigate future impacts, it has not been listed as a mitigation measure in the Mission Bay EIR because the fee is already required by City ordinance.

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To the extent Mission Bay office space also is developed south of China Basin Channel, the occupants of which would take advantage of the new MUNI service, it is reasonable to propose the TIDF boundary be revised to include the entire Mission Bay area. Alternative B and Variant 12 both contain office space south of the channel and therefore would be affected by this change in the TIDF boundary. Variant 12 is described in XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46.

Until such a boundary change is adopted, the Mission Bay EIR is revised to include an additional mitigation measure to make the portion of the Project Area south of China Basin Channel subject to the same fee requirements set forth in the TIDF ordinance. The text of the new measure is proposed in two places: as Mitigation Measure E.4a, to precede Measure E.5 on p. VI.E.201 of Volume Two; and as Mitigation Measure E.31c, to precede Measure E.32 on p. VI.E.219 of Volume Two. These new mitigation measures state:

- Alternative B - In order to assist MUNI in maintaining and augmenting transit service in the Downtown & Vicinity, new office developments in the Project Area would be subject to the same fee requirements stated in the Transit Impact Development Fee (TIDF) Ordinance (San Francisco Ordinance #224-81), and any applicable amendments. The current version of the TIDF ordinance applies only to Mission Bay office development north of China Basin Channel. This mitigation measure is included to apply the same fee requirements to office development that may be developed in the Project Area south of China Basin Channel.

Comments

We agree with the recommendation on page VI.E.201 that a Mission Bay Transportation Systems Management (TSM) program should be implemented to reduce vehicle trips. We believe, however, that the TSM program should go beyond the DEIR's recommendation that a "TSM manager" coordinate public agencies whose actions affect mode choice. We believe that employers should be required to participate in the TSM program and offer employers incentives to use transit and ridesharing. Examples of such incentives include preferential parking for rideshare vehicles, rideshare matching programs, sale and/or subsidy of transit passes, and provision of bicycle amenities. The employer-based TSM program should include regular monitoring of participation rates in order

to evaluate its effectiveness. We recommend that the Final EIR include a more detailed description of proposed TSM measures and explain who is responsible for funding and implementing the program. (Milton Feldstein, Bay Area Air Quality Management District)

TSM Program. The report notes that a TSM program is a recommended mitigation measure to help attain the forecasted year 2000 mode shares at the screenlines. The City should require the TSM program as a condition of project approval.

We have found that to be successful, an employer TSM program should include certain elements. It is not sufficient for the developer alone to hold responsibility for implementing a program. Program requirements should be passed on to building and parcel owners and project tenants through lease agreements. Ample professional staff time and a budget must be allocated to the program. A permanent funding source is needed to sustain the program. One possibility would be for an employer funded Transportation Management Association (TMA) to be developed to provide services to employers, similar to that now in effect at Bishop Ranch in San Ramon. (Chris Brittle, Metropolitan Transportation Commission)

Response

The statements of the commenters are well taken. Mitigation Measure E.5, on p.VI.E.201 of Volume Two, is revised to incorporate additional details for a Transportation Demand Management Program (TDMP), being negotiated for Mission Bay. The measure, as revised, states:

- In order to minimize or eliminate traffic congestion and parking problems identified in the Impacts section by limiting auto use, establish a Mission Bay Transportation Demand Management Program (TDMP) for the Project Area. The goal of the TDMP would be to attain the ridesharing, transit, bicycle, and walking use levels for travel by residents and employees of the Project Area that would be consistent with the screenline travel forecasts in the analysis. A Transportation Management Coordinator for the Project Area would develop a program, through the establishment of a Transportation Management Association or similar entity, to facilitate use of transportation systems by individual building owners, MUNI, CalTrain, SamTrans, AC Transit, BART, Golden Gate Transit, Rides for Bay Area Commuters, MTC, and others. The objective of the TDMP would be to reduce travel throughout

the day, particularly the peak commute periods, by private automobile to or from Mission Bay.

Developers, or owners of individual buildings, also would be required to develop and maintain an ongoing commute program, based on City guidelines for buildings in San Francisco's downtown core. Provision for the TDMP to include measures beyond the scope of downtown programs, in order to achieve established goals, may be periodically negotiated. Employers in each building would be required to participate in the Program through lease agreements. A Transportation Management Coordinator also would be required in individual buildings to work with its employee occupants.

The Mission Bay TDMP would specify area-wide and use-specific mode split goals; parking requirements by type (all day, short term and loading, whether on-site or off-site); incentives for joint use or shared parking by complementary uses; and rideshare/vanpool vehicle parking incentives to encourage compliance with the standards. Transportation Management Coordinators would provide publicity, information and assistance regarding services, routes and schedules of all transit services available to the employees, residents or visitors to the Project Area. The TDMP also would include periodic monitoring to gauge the success of the program and identify modifications to improve performance if necessary. Other activities, as prescribed in agreements negotiated after periodic monitoring, may also be included.

Funding for the TDMP and staff would be required, which could be provided by fees collected from employers and building owners, and Santa Fe Pacific Realty Corporation. Implementation of the program would involve coordination with transportation planning staff in the Department of City Planning.

Comment

Vol. II, VI.E., p. [VI.E.]198-[VI.E.]242. As noted in our previous letter, the section on transportation mitigations includes consideration of a number of possible mitigation measures which should be discussed more fully. We are particularly interested in the discussion of sufficient measures to offset traffic congestion and air pollutant increases in and adjacent to the Mission Bay project area.

The Clean Air Act and the 1982 Bay Area Air Quality Plan (BAAQP) require consideration of all of the Transportation Control Measures (TCMs) to reduce air pollution impacts resulting from traffic. It is not clear if high occupancy vehicle lanes (HOV lanes) on the King Street parkway were considered for peak hour traffic or if ramp metering with HOV bypasses were considered for the proposed I-280 touchdown on ramp. It is also not clear if employers in the Mission Bay project area will be required to reduce peak-hour auto trips by some definite amount by supporting car pooling, transit, staggered hours, etc. The BAAQP would seem to require that these things be considered, analyzed and, where practical, be implemented as mitigation. (Gary Adams, Caltrans, District 4)

Response

The substantial mode shifts to transit and high-occupancy vehicles that were projected for Downtown & Vicinity travelers include Mission Bay travelers. The project-level impact analyses of parking demand compared to supply, intersection levels of service, and transit ridership are all based on achieving the peak-period modal shifts presented by screenline and mode in Table VI.E.7 on p. VI.E.77 of Volume Two.

The primary projected-related measures that would reduce vehicular travel demand to/from Mission Bay are 1) the proposed extensions of MUNI Metro and bus service; and 2) a Transportation Demand Management Program (TDMP) for Mission Bay, established to attain the ridesharing, transit, bicycle, and walking use levels for travel by residents and employees of the Project Area that would be consistent with the screenline travel forecasts in the analysis (see Mitigation Measure E.5, p. VI.E.201 of Volume Two).

It should be noted that TDMPs are already required as conditions of approval in most parts of the Downtown & Vicinity. (Since not all of the Mission Bay Project Area is within the boundaries requiring such programs, the TDMP is listed as a Mission Bay mitigation measure.) Larger office (and in some cases, hotel) projects constructed in San Francisco also are required to meet housing and child care obligations as provided in Sections 313 and 314 of the San Francisco City Planning Code, and contribute to the Transit Improvement Development Fee to fund MUNI service. These measures all have a direct or indirect effect in reducing demand on transportation systems.

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The Mission Bay Alternatives incorporate substantial transportation improvements and new housing to help offset some of the transportation impacts the project would generate. In addition, specific measures have been recommended for the year 2000 (see Mitigation Measure E.10, pp. VI.E.204-VI.E.205 of Volume Two) to mitigate traffic impacts on the operating speeds and schedules of MUNI routes in the Project Area. Additional measures have been recommended for build-out year 2020 to enhance the attractiveness of transit to/from the Project Area; in particular, see Mitigation Measure E.29b on p. VI.E.219 of Volume Two, and Mitigation Measure E.34 on p. VI.E.222 of Volume Two.

The implementation of continuous lanes on King Boulevard reserved for exclusive use by high-occupancy vehicles was not considered to be practical because of the high violation rates expected; the need for buses to stop in that lane; the discontinuity of the third lane in the mid-block sections based on San Francisco Department of Public Works current roadway design; and the likelihood that high-occupancy vehicles would want to use the left-turn, through, and right-turn lanes. Providing a high-occupancy-vehicle (HOV) bypass lane on the I-280 ramps is a much more viable idea that does not suffer from any of the problems described above. Designating a lane for HOVs on the on-ramp should be evaluated by Caltrans in the design for the new I-280 ramps. Designating a lane for HOVs on the off-ramp should also be evaluated, although the action might not be as effective given the lack of an HOV lane on northbound I-280.

Comments

Mitigations which will reduce the impact to State facilities should be fully discussed in the document. Those discussions should include, but not be limited to, the following areas:

- financing,
- scheduling considerations,
- implementation responsibilities,
- monitoring.

The document indicates that there will be a low level of auto use and a heavy reliance on TSM measures as mitigation (page VI.E.201, Vol. II). We support this; however, the above four items need to be addressed, along with the constraints or control mechanisms that will be used to assure reduced auto use. In addition, the regional mitigations, year 2000, specifically, highway capacity improvements (page VI.E.212, Vol. II), are long-range and cannot be assured because of

limited State funding. Likewise, the transit improvements might not be implemented, unless funding is available. The document should identify the environmental impacts, should the "worst case" happen. Any highway improvements which are identified as mitigation should be project specific, rather than a generalized, regional need. Specific highway improvements for mitigation will be more easily identifiable, once the additional traffic information is provided. . . . (Gary Adams, Caltrans, District 4)

Traffic Impact Analysis. The year 2000 traffic analysis assumes certain projects are "reasonably assured"; however, many of these projects are not yet funded and state and federal operating assistance for transit has been declining. We believe certain reasonably assured regional projects to address cumulative impacts may be optimistic when viewed in this context, such as:

- widening of Route 101 to 8 lanes through San Rafael;
- AC Transit's 8% increase in Transbay capacity;
- increases in Golden Gate ferry service by 39%; and
- doubling of SamTrans bus service to the San Francisco downtown. . . .

Long-Range Transportation Impacts (Year 2020). The report attempts to address long-range transportation implications of build-out of the Mission Bay project in the year 2020. While this analysis is important, there is considerable uncertainty in these projections as acknowledged in the EIR. This uncertainty is associated with . . . the extent to which congestion . . . will alter accessibility . . . [to downtown San Francisco] such that job growth occurs in other parts of the region; and the extent to which . . . downtown workers will locate closer to their jobs in San Francisco [in response to traffic congestion] and reduce impacts on the Bay Bridge and Golden Gate corridors.

These effects cannot be gauged with a great deal of accuracy. Further, the report suggests that a number of major transportation investments would appear to be necessary given job growth in downtown San Francisco projected for the year 2020. . . .

These investments would require significant regional consensus on land use and transportation programs. Consensus for the land use and transportation proposals suggested in the EIR does not exist. Broad political consensus, such as that contained in the MTC New Rail

Starts Program, would be necessary to promote the next generation of major capital investments in transportation of the nature suggested in the report. (Chris Brittle, Metropolitan Transportation Commission)

Response

The commenters raise many questions about future transportation improvements: the "reasonably assured" transportation capacity assumptions upon which the impacts analyses are based; a more detailed consideration of requirements for implementing the mitigation measures identified; the share of impacts on state facilities attributed to Mission Bay; and the manner in which high transit mode shares can be attained. Responses below to those Comments are presented in the same order.

Reasonably Assured Capacity

In order to begin the transportation impacts analysis, it was necessary to establish the assumptions and parameters under which growth in travel demand would occur. Because evaluation of Mission Bay requires a very long-range (30-year build-out) analysis, it was believed that some assumptions about future transportation improvements were necessary in order to produce an analysis that would be reasonably realistic. It was not believed that growth in travel demand would continue to occur in the absence of any type of transportation improvement. At the same time, the EIR is conservative in its assumption of additions to the transportation network so as not to underestimate potential future impacts.

The process for identifying reasonably assured transportation capacity is explained in the Technical Appendix for the transportation analyses (Volume Three, Appendix E). Most of the improvements are supported by service objectives included in the most recent five-year plans for each of the transportation agencies available at the time the EIR was being prepared, and/or MTC's current five-year Regional Transportation Improvement Program. The detailed discussion in the EIR technical appendix acknowledges that many of the improvement projects have not yet received funding or approvals. It is, however, a reasonable estimate of service that is the product of review and consultation with staff in each of the transportation agencies affected. It was considered that improvements currently contemplated in the region's transportation policy documents for the upcoming five years were

reasonable to assume to be in place by year 2000, 15 years from the EIR baseline analysis year of 1985.

It is possible that transportation improvements may occur that are different from those assumed, or that lack of funding would preclude some from being implemented as assumed. In acknowledging this possibility, the EIR analyses provide comparative impacts to reflect future conditions if none of the improvements occurred. Without them, there would not be the modal shift opportunities necessary to enable the transportation system to carry more travelers to/from the Downtown & Vicinity. As a result, the EIR (see pp. VI.E.85-VI.E.90 of Volume Two) indicates congestion periods on the most congested segments of the regional freeway system would be longer than projected. These figures represent a "worst case" scenario: On the Golden Gate Bridge, the congestion period could last for four hours without the reasonably assured capacity increases, compared to two hours if those capacity increases resulted in the modal shifts projected. For the Bay Bridge, the congestion could be 5.5 hours instead of 4.5.

For the specific projects mentioned in this Comment, the following reasons explain why the projects are considered as reasonably assured assuming the rate of travel demand projected occurs:

1. Widening of Route 101 to eight lanes through San Rafael. This project would enable the provision of a continuous HOV lane between Richardson Bay and Novato, which would increase travel capacity to the North Bay Area. The FY 90 Regional Transportation Improvement Program includes the construction of the additional lanes between Miller Creek and Route 37 and the acquisition of right-of-way for the widening through central San Rafael. The remaining funding, for actually building the additional freeway lanes in central San Rafael, would come from ongoing state gas tax revenues and the upcoming sales tax measures slated for a referendum in Marin County in 1990.
2. AC Transit's 8% increase in Transbay capacity. This increase would require a greater allocation by MTC of Bay Bridge toll revenues to AC Transit. That change in MTC's allocation policy would be expected when BART reaches its capacity to serve Transbay travel demand. As indicated in the EIR, that would happen by 2000.
3. Increases in Golden Gate ferry service by 39%. This increase in capacity would be

achieved by scheduling one more p.m. peak period ferry boat departure from San Francisco. Increases in Golden Gate Bridge tolls would be likely to offset the increases in operating subsidies.

4. Doubling of SamTrans bus service to downtown San Francisco. SamTrans' long-range development plan states that, if CalTrain is not extended into downtown San Francisco, SamTrans would double its bus service. That increase in service would be funded from existing federal, state and local capital assistance sources, but would require an increase in fares to offset increasing system-wide operating deficits.

Mitigation Measures

In spite of the reasonably assured capacity increases assumed in the analysis, the EIR concludes the regional transportation network would be operating at or beyond capacity by year 2000 and beyond. This is a result of an increase in all components of travel, from localized areas, the City and the region. Most of the mitigation measures proposed involve actions by overlapping jurisdictions and thus regional coordination. Jurisdictions involved in the planning and implementation of each mitigation measure are stated in the EIR. Detailed information about financing, scheduling, or the allocation of implementation responsibilities, however, is not possible to identify in a vacuum. The normal process for addressing these issues is through the MTC. It is this agency that ultimately determines the priority and allocation of resources that determine how and when mitigation measures will be implemented, and the level of involvement of each participating agency.

Many of the mitigation measures that would affect state highways most dramatically are identified for year 2020. As indicated on pp. VI.E.225-VI.E.230 of Volume Two, those measures are examples of the types of improvements that will need to be considered; they are not prescriptive measures. As a result, any detailed accounting of finance, scheduling, or implementation requirements would be premature. Suffice it to say, the types of measures needed to address travel demand generated between 2000 and 2020 would be costly -- in the millions of (1989) dollars -- and would require lengthy construction periods. As recognized by MTC in its Comments, any improvements of this magnitude will have to undergo extensive planning and negotiation at a regional, and possibly state and federal, level before reaching a point of determining implementation schedules.

A specific mitigation measure is included (Mitigation Measure E.35, p. VI.E.225 of Volume Two) to initiate the process of cooperative planning of long-term regional transportation improvements beyond 2000.

Mission Bay Impacts on State Highways

The proportion of impacts generated by the Mission Bay project on each highway is presented in the EIR in Tables VI.E.9-VI.E.10 on pp. VI.E.86-VI.E.88 of Volume Two, and in Tables VI.E.14-VI.E.15 on pp. VI.E.106-VI.E.109 of Volume Two. For each highway (and public transit system), the EIR presents a breakdown of the total trips by Mission Bay Project Area, San Francisco's Downtown & Vicinity, and the rest of the region (which includes the rest of San Francisco outside the downtown area). See also Table XV.E.2, p. XV.E.12, for a summary presentation of project impacts associated with Mission Bay development. Mission Bay would generate about 2% of the total number of trips projected at screenlines on any of the highways serving San Francisco: U.S. 101 (north and south), I-280, and I-80. Given this limited set of impacts associated with the project, it is difficult to determine with accuracy what types of mitigation would constitute a 2% mitigation share.

Modal Shares

The increased levels of transit service that are the basis for projecting a shift by workers in San Francisco's Downtown & Vicinity to higher use of public transit are the reasonably assured capacity improvement assumptions. As discussed above, the capacity improvements are reasonable projections of service additions that would be provided in the course of the standard service planning process in which all Bay Area transportation agencies operate. They are not tailored service plans for Mission Bay. The transportation analyses assume that mounting congestion on the region's highways would itself produce the greatest motivation for drivers to switch to ridesharing or public transit. Increases in parking rates in response to more limited parking availability in the future also would contribute toward making the use of private automobiles a less desirable mode of travel.

Comment

The Final EIR should indicate the cost of major infrastructure improvements, their time frame, and their likelihood of implementation.

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The Mission Bay EIR states that major infrastructure improvements will be necessary to accommodate roadway and transit demands after 2000. It also gives a list of potential improvements such as a Southern Crossing, new lanes on existing bridges, etc. . . .

Almost [all] of these transportation improvements are significant in magnitude, cost, and the political consensus that would have to develop before they could be implemented. Yet the EIR does not give an indication of their cost or likelihood.

The Final EIR should indicate the estimated (ballpark is good enough) cost of major infrastructure improvements, their time frame, and their likelihood of implementation. (Alan Raznick, San Franciscans for Reasonable Growth)

Response

Build-out for Mission Bay is projected not to occur until 2020, a horizon year beyond that used by agencies planning for transportation in the region and San Francisco. This is not to say that proposals have not been made to build or operate transportation projects that would provide additional capacity beyond that defined as "reasonably assured" for 2000, but that many of the proposals have not been endorsed by MTC or other entities responsible for planning and programming of transportation projects. In light of those circumstances and the lack of concept or preliminary engineering designs, it is not possible to derive even rough cost estimates. It is safe to assume, however, that most of the types of improvements described as possible mitigation for 2020 would be very costly, in the millions of dollars.

The EIR contains an extensive discussion of the status of all regional highway and transit projects identified as mitigation measures for consideration. (See Mitigation Measures E.35-E.38, pp. VI.E.225-VI.E.231 of Volume Two.) Those measures are not intended to address the mitigation of travel demand impacts associated with development of Mission Bay per se, but represent possible ways of increasing the capacity of the region's highway and transit systems to serve cumulative regional growth beyond 2000.

As the measures presented in the EIR are partly intended to begin the process of planning for specific projects that also would serve the needs of San Francisco beyond 2000, the appropriate forum for describing costs and implementation would not be the EIR. That forum would be a

long-range planning study under the direction of MTC and involving participation by a wide array of staff and elected officials who would make the decisions as to which projects would be included in the Regional Transportation Plan.

Comment

The Transportation Mitigation section of this EIR is deficient and misdirected in many respects. A serious flaw is that it gives more weight to bankrupt ideas like the Southern Crossing than to progressive ones like CalTrain upgrading. The Southern Crossing is not a mitigation measure; it is an exacerbation measure. It will require more highways to feed it and will increase automobile traffic on both sides of the Bay. It is unacceptable. A second deck on the Golden Gate Bridge is unacceptable for similar reasons.

This section should be greatly expanded to fully discuss future transit projects and ways of changing modal splits. . . .

This EIR should not be certified until the Transportation Mitigation section is revised as described above.

Not only will transit systems to and from our central city downtowns have to be enhanced, regional grid systems connecting suburban activity centers will have to be introduced. Many lines will be cross-regional and not enter city downtowns, but will connect suburban shopping, commercial, industrial, and residential areas. They will of course connect with regional radial lines from downtowns, and schedules and fares will be coordinated. There will of course be feeder lines to these trunk lines. The overall coordinated regional grid system will include buses, light rail, heavy rail, and commuter rail. Future development must be transit oriented, not auto oriented. If we are to preserve the liveability of our metropolitan areas, and perhaps even of the earth itself, we must start thinking in terms of moving people, not vehicles. We must start moving many more people by transit. (Norman Rolfe, San Francisco Tomorrow)

Response

The mitigation measures contained in the Mission Bay EIR cover a range of approaches to increase transportation capacity for the region; these measures are not identified solely for the benefit of travelers in San Francisco, where transit is most likely to be a viable travel alternative. Virtually all of the measures identified for year

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2000 focus on increasing capacity through the expansion of public transit and ridesharing facilities. Such measures would enable travelers, particularly those from downtown San Francisco, to continue the projected trend of shifting away from the use of private automobiles.

An extensive discussion of the substantial mode shifts to transit and carpooling by 2000 expected as a result of congestion occurring on the regional highway network is presented on pp. VI.E.74-VI.E.79 of Volume Two. Additional mode shifts were not assumed between 2000 and 2020 because no basis could be found to define transportation improvements currently being planned that would make it possible to accommodate additional travel demand during that period.

Although summary descriptions of mitigation measures and their probable impacts are provided, it is beyond the scope of the EIR to describe in detail future traffic impacts of each transit or highway project or measure recommended for mitigation of cumulative impacts analyzed in the EIR. The matters would require specific implementation, design and planning coordination between MTC and the region's various transportation agencies, including Caltrans. As these agencies have not prepared plans for improvements for the period between 2000 and 2020, it would be inappropriate and speculative for this EIR to imply what improvements are most likely.

It is important to note, as stated repeatedly in the text and as shown by the forecasts presented in many of the tables, that the Mission Bay project would generate very small shares of traffic across most screenlines at full build-out. Even then (by 2020), it is the impacts of regional growth that will need to be addressed primarily. Thus, one of the year 2020 highway measures is the "Southern Crossing" (Mitigation Measure E.36a on pp. VI.E.227-VI.E.228 of Volume Two). The EIR does not imply that this bridge could be constructed without increasing traffic on its approaches; in fact, it states only that such a new bridge would "reduce traffic congestion on the two adjacent bridges, with the amount of reduction dependent on how many of the travelers would have to pass through congested freeway segments to reach the new bridge. Additional freeway widenings of U.S. 101 in San Mateo County and 1-880 in Alameda County could be required" (pp. VI.E.227-VI.E.228 of Volume Two).

It is not the intent of the EIR to advocate some measures over others, particularly for such a distant time frame. Measures identified for 2020

are suggested examples of the types of improvements that will need to be considered if transportation conditions as projected in the EIR analyses were to occur. In recognition that many trips in the region cannot readily be made by transit, some highway/roadway expansion projects are included in the list of mitigation options. The mitigation discussion does acknowledge that expanding certain segments of the region's freeways could overload the feeder freeway segments providing access to or from the expanded segments.

However, roadway expansions, such as adding lanes to the San Mateo Bridge, adding a second deck to the Golden Gate Bridge, or constructing a new transbay Southern Crossing, need not necessarily mean more capacity just for single-occupant automobiles. Those roadway expansions could allow for new or increased carpooling opportunities, preferential bus lanes, or rights-of-way for new transit service such as light-rail lines. All of these could be viable depending on transportation patterns and the amount of development in different parts of the region. Those possibilities for increasing efficiency in travel are already acknowledged and discussed in Mitigation Measures E.35-E.38, pp. VI.E.225-VI.E.231 of Volume Two.

It should be noted that other opportunities may exist for transit expansion to address cumulative transportation impacts in other parts of the region (e.g., the I-680 corridor in the San Ramon / Pleasanton area). However, those types of measures have not been included in this EIR, as there would be no measurable effect on cumulative travel generated by San Francisco.

Comment

The report identifies various mitigation measures needed to address the project's transportation impacts. However, there is no indication of which measures are believed to be the most feasible and effective. Also, funding sources, project costs, and implementation schedules are generally omitted. Without this information it is difficult to determine what the actual transportation consequences of the project will be. (Chris Brittle, Metropolitan Transportation Commission)

Response

Mitigation measures proposed in the EIR to address Project Area impacts are organized by transportation mode. They have been written to identify clearly the specific type of impacts to be

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initiated. The choice and priority of implementing any of them is not established by the EIR, but by the decision-makers who determine what type of development is appropriate in Mission Bay. From an EIR standpoint, it is not appropriate to declare whether roadway measures, for example, should take higher priority than transit improvements.

The publication of the EIR enables all the mitigation measures contained therein to be considered for incorporation into an approved plan for Mission Bay. It is therefore in the findings that support the decision on the Mission Bay Plan and rezoning that the disposition (i.e., acceptance, rejection or modification) of each of the mitigation measures will be declared. The findings also will specify what types of significant environmental impacts would be associated with the project as approved. It is only after the decision-makers can integrate the various social, economic, political, and environmental concerns of the project that the ultimate priority of mitigation measures and environmental impacts will be known.

MISCELLANEOUS TRANSPORTATION ISSUES

Comments

For the transit sections, in Volume II, page VI.E.227, the word "CalTrain" should read "Caltrans," and on page VI.E.26, Figure VI.E.7, all of the piers northward from Pier 40 should be shown as "areas where rail service is dependent on tracks in project area," since they rely on SP tracks, which connect to the Belt Line. (Gary Adams, Caltrans, District 4)

[p.VI.E.26 (Map): SP Transportation Co. may not have any more customers left north of Townsend St. . . . If SP Transportation Co. does not, then map should be changed to delete shading north of Townsend. Also "Mission Bay Rail Area" shading is too large. (James W. Augustino, Santa Fe Pacific Realty Corporation)

Response

The error identified by the commenter on p. VI.E.227 is corrected accordingly. The first sentence of Mitigation Measure E.36a, on p. VI.E.227 of Volume Two, after the heading "Southern Crossing," states, as amended:

- During the 1950s, Caltrans proposed the construction of a bridge south of the

San Francisco - Oakland Bay Bridge as a means of relieving anticipated congestion on the Bay Bridge.

Figure VI.E.7, referenced by the commenters, is intended to indicate freight rail service areas as of 1983-1985, as 1985 is the setting year for the EIR analysis. In numerous parts of the text, it is already acknowledged that the trend for freight rail service in Mission Bay and its vicinity has been on the decline since 1985. That figure is revised to indicate that Beltline freight rail service, which relies on Southern Pacific lead tracks, may be received as far north as Piers 30-32, if necessary, although currently there are no operations there that require rail freight service. This figure, as revised, is shown on p. XV.E.42.

Comments

Mission Bay DEIR: Transportation Comments on Volume II. (Deleted words are crossed out, new words added are underlined where applicable.)

[1.] [p.VI.E.60, Para. 7 [Proposed text revision]: Streets within the Project Area containing four travel lanes ~~may~~ would be Third, 16th, Fourth (north of China Basin Channel), Townsend, ~~DWells~~, and King (with perhaps up to 6 lanes during rush hours). . . .

[p.VI.E.60.] Para. 8 [Proposed text revision]: All streets would contain parking lanes. ~~Although~~ Parking on ~~High/~~ King Street may ~~would~~ be prohibited during peak travel hours. (James W. Augustino, Santa Fe Pacific Realty Corporation)

Vol. II, Table V.3, p. V.24; Vol. I, p. II.4. All the alternatives shown in Vol. II, Table V.3, list King Street as a four-lane roadway. However, suggested mitigation for congestion projected for King Street in Vol. I, p. II.4 would involve developing a six-lane roadway. In either case, a fairly high volume of traffic would travel on King Street through the medium high density residential area proposed in Alternative B. This traffic might subject residents at street level to considerable traffic noise, fumes, etc. The final Mission Bay design for King Street should be coordinated with Caltrans to ensure that it is consistent with plans for the proposed I-280 touchdown ramps. (Gary Adams, Caltrans, District 4)

[2.] [p.VI.E.60.] Para. 9 [Proposed text revision]: Berry Street ~~would/~~ ~~be/~~ ~~at/~~ ~~the/~~ ~~of~~ ~~8th/~~ ~~Streets~~ may run through to Seventh Street.



MISSION BAY BOUNDARY



MISSION BAY RAIL AREA



AREAS WHERE RAIL SERVICE IS DEPENDENT
ON TRACKS IN PROJECT AREA



AREAS OUTSIDE OF MISSION BAY WITH TRACKS
UNAFFECTED BY MISSION BAY TRACKS

Mission Bay

SOURCE: Barton Aschman Associates, Inc.

FIGURE VI.E.7
GEOGRAPHIC AREAS USED TO
DESCRIBE RAIL FREIGHT VOLUMES, 1985

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[3.] [p.]VI.E.68, Para. 2 [Proposed text revision]: Freight car gathering and classification ~~at Bayshore yard (Brisbane) and shifted to South San Francisco station and San Jose yard. . . . South of San Francisco no major changes in rail freight activities are assumed. Also South of San Francisco, CalTrain may build a maintenance facility in Cahill Yard in San Jose.~~ (Source: CalTrain 5-Year Plan)

[4.] [p.]VI.E.153, Para. 7 [Proposed text revision]: Development of that area ~~could require realignment of the 16th Street lead track.~~

[5.] [p.]VI.E.154, Para. 5 [Proposed text revision]: Beginning at the mainline south of 16th Street, ~~the EN 16th Street lead may be realigned to connect to the new 16th Street lead may connect to the Illinois Street lead, which may intersect a new lead to be constructed along China Basin Street.~~

[6.] [p.]VI.E.165 [Proposed text revision]: While neither of the I-280 TCP EIR alternatives, nor Mission Bay Alternative A, provides for a direct platform-to-platform transfer, Mission Bay Alternatives A and B may provide cross platform transfers from CalTrain to MUNI Metro at 7th/Channel Streets.

[7.] [p.]VI.E.182, Para. 3 [Proposed text revision]: (Insert after 3rd sentence . . . "Third Street Bridge.") Alternatively, the 16th Street lead may be realigned on 16th Street to go east to Illinois Street, then to China Basin Street.

[8.] [p.]VI.E.182, Para. 4 [Proposed text revision]: By build-out, residential land uses ~~may eliminate or realign the existing 16th Street connection to Illinois Street, . . .~~

[9.] [p.]VI.E.183, Para. 1 [Proposed text revision]: However, as funding for that connection is not secured, preservation of the Indiana Street line outside the Project Area or realigning the 16th Street lead ~~may be required for both Alternatives A and B.~~

[10.] [p.]VI.E.201, Para. 2 [Proposed text revision]: In order to minimize or eliminate traffic congestion and parking problems identified in the impacts section by limiting auto use, consider establishing a Mission Bay Transportation System Management (TSM) program for the Project Area.

[p.]VI.E.201, Para. 3 [Proposed text revision]:

Funding for this [a TSM] program ~~may~~ should be required. . . .

[11.] [p.]VI.E.207, Para. 3 [Proposed text revision]: Increase parking requirements particularly for office and hotel uses, and possibly for retail use. ~~Establishing parking facilities for China Basin.~~

[12.] [p.]VI.E.208, Para. 1 [Proposed text revision]: Accommodating parking demand associated with office and hotel uses, ~~China Basin~~ China Basin ~~spurries~~ plenty ~~straight~~.

[p.]VI.E.223 [Proposed text revision]: . . . ~~China Basin~~ China Basin ~~straight~~.

(James W. Augustino, Santa Fe Pacific Realty Corporation)

Response

The following Responses are numbered to correspond to the number preceding each point made by the commenters.

1. The traffic analyses conducted in the EIR are based on the lane configurations and parking restrictions that are stated on p. IV.E.60 of Volume Two. To alter those assumptions would be inconsistent with the quantitative analyses that have been presented. The EIR already evaluates the noise and air quality effects associated with the four-lane design. For King Street, a mitigation measure (see Measure E.4, pp. VI.E.200-VI.E.201 of Volume Two) is included recommending the prohibition of curbside parking during the afternoon commute, which would allow three lanes of traffic in both directions for the most congested segment of King Street.

Design work for King Street currently being coordinated between the San Francisco Department of Public Works and Caltrans, in implementing the I-280 Transfer Concept Program, and the effects on intersection service levels on King Street are discussed on pp. XV.E.56 and XV.E.57 (see staff-initiated text changes for p. VI.E.147 and p. VI.E.174, respectively). See also the discussion under Variant 12 (Development Agreement Application) in XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46.

2. The revision proposed by the commenter has not been incorporated, as it is not reflective of the assumptions used in the analysis. For an analysis of traffic conditions that assume Berry Street

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extends through to Seventh Street, see XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46, which addresses impacts of Variant 12, the land use program contained in the development agreement application for Mission Bay.

3. The changes as proposed by the commenter are incorporated into the EIR. The second sentence of the second paragraph on p. VI.E.68 of Volume Two is revised and a new sentence is added after the third sentence, as follows:

- Freight car gathering and classification have ceased at Bayshore Yard (Brisbane) and shifted to South San Francisco station and San Jose Yard. South of San Francisco no major changes in rail freight facilities or activities are assumed. Also South of San Francisco, CalTrain may build a maintenance facility in San Jose./66a/

The following new note, /66a/, is added to p. VI.E.238 of Volume Two to follow note /66/:

- /66a/ California Department of Transportation (Caltrans), CalTrain Peninsula Commute Service Five-Year Plan 1988-1993, September 1988.

4. The revision proposed by the commenter is incorporated into the EIR. The second sentence of the last complete paragraph on p. VI.E.153 of Volume Two is revised to state:

- Development of that area could require realignment of the 16th Street lead track.

5. The revision proposed by the commenter is modified, as follows, and is added after the second sentence of the next-to-last paragraph on p. VI.E.154 of Volume Two:

- The following way is proposed to continue serving the Belt Line north of Mission Bay through the year 2000: beginning at the mainline south of 16th Street, the existing connection to the Illinois Street lead at Eldorado Street and the existing track on Illinois Street would intersect a new lead to be constructed along China Basin Street. Alternatively, a new 16th Street lead may connect to the Illinois Street lead, which may intersect a new lead to be constructed along China Basin Street.

6. The revisions proposed by the commenter have not been incorporated into the EIR, as they do not reflect the assumptions used in the analysis. The concept of a platform-to-platform transfer area between CalTrain and MUNI Metro service, however, was identified as a mitigation measure to facilitate transfers (see Measure E.8,

pp. VI.E.202-203 of Volume Two). If an approved plan for Mission Bay includes such a transfer platform facility, it will still have been covered in the EIR analysis.

7. The revision is incorporated into the EIR. The following is thus inserted after the third sentence in the third paragraph on p. VI.E.182 of Volume Two:

- Alternatively, the 16th Street lead may be realigned on 16th Street to go east to Illinois Street, then to China Basin Street.

8. The proposed revision is modified, as follows, and is incorporated into the first sentence of the second listed item at the bottom of p. VI.E.182 of Volume Two:

- By build-out, residential land uses may eliminate the existing 16th Street connection to China Basin Street and thus require realignment of that connection.

9. The revision proposed by the commenter regarding the realignment of the 16th Street lead is incorporated into the EIR. However, it has been affirmatively stated as being required for Alternatives A and B; the conditional "may" is not incorporated. The last sentence of the paragraph at the top of p. VI.E.183 of Volume Two is thus revised to state:

- However, as funding for that connection is not secured, preservation of the Indiana Street line outside the Project Area, or realignment of the 16th Street lead track, would be required for both Alternatives A and B.

10. The proposed revisions for p. VI.E.201 have not been incorporated into the EIR, as they would reduce and possibly eliminate the mitigating value that a TSM program provides. The choice to include, modify or reject mitigation measures would be made by decision-makers if a final plan is approved for Mission Bay. (See also the Response on pp. XV.E.34-XV.E.35).

11. The revision proposed is not incorporated into the EIR. However, the first sentence of the first paragraph of Mitigation Measure E.14b, on p. VI.E.207 of Volume Two, is clarified to indicate parking mitigation for CalTrain users:

- Increase parking requirements particularly for office and hotel uses, possibly for retail use, and accommodate existing parking demand for CalTrain.

For more information on the relationship of parking standards for CalTrain and existing Master Plan Policy, see the first Response on p. XV.E.23.

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12. The revisions proposed by the commenter are not incorporated for the reasons explained in the first Response on p. XV.E.23. However, the measure on p. VI.E.223 of Volume Two is slightly modified to clarify the mitigatory parking supply rate for CalTrain; this would be consistent with the manner in which it is stated on p. VI.E.208 of Volume Two. In Mitigation Measure E.34b, the second complete sentence of the partial paragraph at the top of p. VI.E.223 is thus revised to state:

- **The resulting parking supply requirements by land use to offset the parking deficit are the same as those presented in parking mitigation measures for year 2000 (see measure E.14): 1.35 spaces per 1,000 square feet of office; 0.84 spaces per room for hotels; and up to 0.04 spaces per passenger for the CalTrain Station.**

Comment

All figures in the document depicting the configuration of the proposed King Street ramps show the on-ramps at the outside (west of) the 6th Street ramps. At a meeting between Caltrans and the City of San Francisco on May 27, 1988, it was agreed that the alternative with the King Street on-ramps would be located on the inside of the 6th Street ramps. Caltrans is proceeding with the environmental document based on this agreed upon alternative. (Gary Adamis, Caltrans, District 4)

Response

The ramp configuration depicted in the Mission Bay EIR graphics predates the point when Caltrans and San Francisco agreed on a final design. As a result, the EIR graphics should be considered schematic and would in no way override the detailed design and engineering work prepared by Caltrans and the San Francisco Department of Public Works.

Comment

Omissions which need to be clarified in Volume I are as follows: Page II.47/II.48 - There appears to be something omitted between the last line on page II.47 and the first line on page II.48. Pages II.52/II.53 - Same comment for those pages. It seems as if the top three lines of each column on page 53 should be switched. (Gary Adams, Caltrans, District 4)

Response

Due to a production error, text on pp. II.47-II.48

and II.53 of Volume One was garbled. The correct text is presented below.

On p. II.47, the third sentence of the second paragraph under "CalTrain Station Location" (bottom of the right-hand column), which continues on p. II.48 (top of the left-hand column), is revised to state:

- **The greater the loss in CalTrain ridership, the greater the use of automobiles, resulting in increased street congestion.**

On p. II.53, the first three lines at the top of both columns should be reversed. Thus, the first sentence, which begins at the end of the right-hand column on p. II.52, and the second sentence in the top of the left-hand column on p. II.53 state:

- **The capacity planned for BART in 2000 would allow for about a doubling in the number of BART riders from the Downtown & Vicinity between 1985 and 2000. The number of trips on AC Transit would increase by about 65%, based on the service available and the need to accommodate some BART riders by 2000.**

The sentence at the top of the right-hand column, which begins at the end of the left-hand column, states:

- **Because all alternatives to using the Bay Bridge in 2020 would also be severely congested for more than two hours every weekday afternoon, many potential travelers would most likely not travel at all without further capacity increases.**

NOTES - Transportation

- /1/ Marty Bierkenthal, BART, SRTP Planner, telephone conversation, April 5, 1989.
- /2/ CalTrain 1988-1993 Five-Year Plan, pp. 108-115.
- /3/ John Grother, Southern Pacific General Manager for Passenger Service, telephone conversation, October 3, 1989.
- /4/ See Barton-Aschman Associates, Inc. CalTrain Station Locations - Mission Bay, for the Department of City Planning, September 1986; Forecasts for the Peninsula Mass Transit (SCR 84) Study by Barton-Aschman Associates; and Forecasts for the Peninsula Commute Service Interim Upgrade Study by Wilbur Smith & Associates.

STAFF-INITIATED TEXT CHANGES FOR TRANSPORTATION

The following staff-initiated revisions are made to the Transportation subchapters and appendix in the Mission Bay Draft EIR.

Volume One - Chapter Two, Highlights & Conclusions (Transportation)

On p. II.42, the fourth sentence in the top paragraph, right-hand column, is revised to state:

- That means that the analysis for 2020 requires an approach that differs from that used in the analysis for 2000.

The first sentence of the second paragraph under "Rail Freight Facilities & Services," which starts in the right-hand column on p. II.48 and continues at the top of the left-hand column on p. II.49, is revised to state:

- By 2000, implementation of the I-280 improvements under all Alternatives, and relocation of the CalTrain station under Alternatives A and B, would require abandonment of tracks providing existing Belt Railroad service to the Northern Waterfront.

In the first full paragraph, left-hand column, on p. II.49, the third sentence is revised to state:

- The Indiana lead would access currently non-operational tracks on 25th Street, which would connect with an Illinois Street track that serves the container terminal.

Also on p. II.49, the first sentence under "Pedestrians & Bicycles" is revised to state:

- Pedestrian and bicycle activity in 2000 and 2020 would be higher than existing levels in all Alternatives.

On p. II.50, the last sentence in the left-hand column is revised to state:

- The shift to transit and ridesharing would be greatest for travel to the East Bay, somewhat less to the North Bay, and none would be likely for travelers to the Peninsula by 2000.

On p. II.51, the second sentence of the paragraph under "Downtown & Vicinity - MUNI," in the left-hand column, is revised to state:

- In 2000, ridership would generally be accommodated on the MUNI screenlines; slight overcrowding would occur on the

Northwest screenline during the p.m. peak hour, and on the Northeast screenline during the p.m. peak period.

The first sentence of the second full paragraph, right-hand column, on p. II.51 is revised to state:

- By the year 2020, heavy congestion on the Golden Gate Bridge could last four hours, assuming the same levels of transit and ridesharing as in 2000, if there were no additional transportation improvements between 2000 and 2020.

On p. II.53, the last sentence of the second paragraph, left-hand column, is revised to state:

- Additional service would be required for BART and AC Transit to reduce loading to at most 1.5 and 1.25 passengers per seat, respectively.

The fourth sentence of the first paragraph under "Peninsula Corridor," which begins in the bottom of the right-hand column on p. II.53 and continues at the top of the left-hand column on p. II.54, is revised to state:

- In or near San Francisco, the capacity of local streets, U.S. 101, and I-280 generally would be sufficient to handle future travel demand: the switch from highway to transit modes by Downtown & Vicinity commuters assumed for the Golden Gate and Bay Bridges is not considered as likely to occur for the routes serving the Peninsula.

The first two sentences of the first full paragraph, left-hand column, on p. II.54, are revised to state:

- U.S. 101 at the San Mateo County line would operate at capacity for about three hours in 2000, with heavy congestion and speeds of 30 miles per hour occurring during that afternoon peak period. By 2020, heavy congestion on U.S. 101 would last for over three afternoon hours.

In Figure II.36 on p. II.55, "Traffic Congestion Outbound From San Francisco During the Afternoon Commute Period," the bars indicating "Hours of Severe Congestion" for "To South Bay (Highway 101)" are increased for the years 2000 and 2020 to reflect the change noted above.

Volume Two - VI.E. Transportation

The following is added to p. VI.E.1 as a third paragraph under "Existing Project Area Transportation Facilities and Services":

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- In October 1989, a major earthquake of Richter magnitude 7.1, the Loma Prieta earthquake, occurred. It had notable effects on the regional highway system. One span of the upper deck of the Bay Bridge collapsed, closing the bridge for one month for repairs. The double-decked Cypress structure on I-880 near downtown Oakland collapsed and has since been demolished. Traffic bound to the Bay Bridge from I-880 south of I-580 no longer has direct access to the bridge and is now redirected through I-580.

Within San Francisco, major damage to State Route 480 (Embarcadero Freeway) and the I-280 extension north of Silver Avenue caused closure of those roads. As of May 2, 1990, Caltrans estimates that the I-280 extension (from north of Silver Avenue to Fourth Street at Berry and to Sixth Street at Brannan) will be back in service by mid-October 1990./1a/ Different repair options are under consideration for the Embarcadero Freeway. In April 1990, Mayor Agnos proposed that the City demolish the elevated freeway and replace it with depressed expressway within the same right-of-way. The conceptual design was approved by the Board of Supervisors for further investigation, along with the possibility of demolition and replacement with a surface roadway. Feasibility of implementing this project and sources of funding for it are being studied by City staff at the Mayor's direction./1b/ The other main option, proposed by Caltrans, is repair and reinforcement of the existing structure.

Two new notes, /1a/ and /1b/, are added to p. VI.E.232, to follow note /1/:

- /1a/ Caltrans Information, telephone conversation, May 2, 1990.
- /1b/ Board of Supervisors Resolution #262-90, April 1990.

On p. VI.E.16, the page number cited at the end of the last sentence in the first full paragraph is corrected, as follows:

- The ratio of passengers (demand) to seats (capacity) is used to describe the LOS that would be available on transit vehicles at each route's maximum (passenger) load point and is discussed further in Appendix E. p. XIV.E.16.

The first full sentence on p. VI.E.24 is revised to state:

- (Trains were then routed southward on the SP mainline.)/20/

The third full paragraph on p. VI.E.24, which precedes "San Francisco Belt Railroad," is revised to state:

- ATSF's Indiana Street lead track connects to SP's 16th Street lead west of the Project Area. South of the Project Area in 1985, the Indiana Street lead connected to ATSF's Illinois Street track at 25th Street. By early 1990, a section of that track over 100-feet long, at the intersection of Indiana and 25th Streets, had been paved over. Thus, rail access south to the Port's North Container Terminal just north of Islais Creek is no longer possible via this route, unless the paving is removed. Long (89-foot-long) box cars can access the Indiana Street tracks from the SP Mainline, north of 25th Street (i.e., at 16th Street) /22a/ However, trains containing combinations of short and long box cars cannot maneuver the existing curvature of the track between 16th and 18th Streets./22b/ In addition, there are potential conflicts for individual wide freight cars, as there are several locations along the Indiana Street lead where buildings along the track are only 8.3 to 9.0 feet from the centerline of the track./22a/ The Port's requirement is a clearance of at least 9.0 feet between the centerline of the track and any wall, fence or other potential obstruction./22b/

The Port's plans to expand the intermodal (rail-to-ship) container capabilities of the North Container Terminal require the capability to handle long and wide (container) freight cars./22b/ Long and wide cars can be handled on the existing 16th Street lead trackage to Illinois Street through the Project Area. As mentioned above, train length and the width of cars would present access problems on the Indiana Street tracks. That trackage would have to be realigned in some areas, to allow long trains and wide (container-loaded) cars to clear buildings or other obstructions along the right-of-way. At some locations, that realignment could require land acquisition.

The following new notes, /22a/ and /22b/, are added after note /22/ on p. VI.E.234:

- /22a/ Letter from KCA Engineers, Inc. to Santa Fe Pacific Realty, April 10, 1990. Available for inspection at the Office of Environmental Review, 450 McAllister Street, 6th Floor, San Francisco, 94102.

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Accessibility of long box cars is evidenced by the presence of one such car on Indiana Street between 19th and 20th Streets (in front of Bormann Steel) in April 1990. ATSF records show that the car arrived there in late February 1990.

/22b/ Kerri Lung, Port of San Francisco, telephone conversations, March 22, 1990 and April 30, 1990; Kerstin Fraser Magary, Santa Fe Pacific Realty, interview, April 17, 1990, and telephone conversation, April 30, 1990; Cliff Jarrard, Chief Harbor Engineer, Port of San Francisco, telephone conversation, May 2, 1990. The Port has no plans to use tall (stacked-container) cars at the North Container Terminal (this would require effectively raising the heights of Tunnels 1 and 2 on the SP mainline, between Army Street and Mariposa Streets, not currently judged cost-effective). The Port's current plans are to provide access for tall cars to the South Container Terminal, on the south side of Islais Creek, by lowering the tracks in Tunnels 3 and 4, in the southeast corner of San Francisco.

On p. VI.E.30, footnote /a/ at the bottom of Table VI.E.5 is corrected, as follows:

- /a/ For flow regime descriptions, see Appendix E. p. XIV.E.21.

On p. VI.E.31, the first sentence of the second paragraph is revised to state:

- The Project Area contains three parking lots — two public and one private (restricted); an additional two public lots are immediately adjacent to the Project Area.

On p. VI.E.34, a typographical error is corrected in the second sentence of the first paragraph under "Transit Operating Conditions at Screenlines." As corrected, this sentence states:

- Those numbers, which are listed in Table VI.E.6 for all transit carriers, include both travelers who began their trip within the Downtown & Vicinity, and travelers who began their trip elsewhere.

Changes are made to Tables VI.E.23, p. VI.E.144, and VI.E.26, on pp. VI.E.167-VI.E.168. In Table VI.E.23, the 2000 Alternative V/C and LOS are changed for "Second and Bryant (Sterling St. HOV I-80 east on-ramp)," under "Signalized Freeway Access Points." For "2000 Alternative A," the V/C and LOS are changed to, respectively:

- 0.65
- B

For "2000 Alternative B," the V/C and LOS are changed to, respectively:

- 0.67
- B

For "2000 Alternative N," the V/C and LOS are changed to, respectively:

- 0.68
- B

On p. VI.E.167, the first page of Table VI.E.26, the Alternative A 2000 and 2020 V/C and LOS are changed for "Second and Bryant (Sterling St. HOV I-80 east on-ramp)," under "Signalized Freeway Access Points." For "2000", the V/C and LOS are changed to, respectively:

- 0.65
- B

For "2000," the V/C and LOS are changed to, respectively:

- 0.73
- C

In Table VI.E.26 on p. VI.E.168, the Alternative B 2000 and 2020 V/C and LOS are changed for "Second and Bryant (Sterling St. HOV I-80 east on-ramp)," under "Signalized Freeway Access Points." For "2000," the V/C and LOS are changed to, respectively:

- 0.67
- B

For "2020", the V/C and LOS are changed to, respectively:

- 0.78
- C

On p. VI.E.168, the Alternative N 2000 and 2020 V/C and LOS are also changed for this intersection. For "2000," the V/C and LOS are changed to, respectively:

- 0.68
- B

For "2020," the V/C and LOS are changed to, respectively:

- 0.77
- C

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On p. VI.E.168, the second page of this table, the "LOS" and "%" columns did not appear under "Alternative N" for the year 2020. These columns are added and, to accommodate them, p. VI.E.168 is divided into two: "Alternative B, 2000 and 2020" appears on one page, and "Alternative N, 2000 and 2020" appears on the next. The footnotes on p. VI.E.168 now appear on the last page of the table. Part of the second sentence of footnote /g/ did not appear in the Draft EIR. That footnote, as /h/, now states:

- **/h/ LOS calculated represents the worst movement level of service calculated for the intersection. For unsignalized intersections, V/C ratios are not calculated.**

Additional changes are made to Tables VI.E.23 and VI.E.26 as well. "Third and Townsend," the second entry under "New Signalized Intersections in Project Area," is moved up in the tables to be the second item under "Existing Signalized Intersections in Project Area." The 1985 V/C and LOS for this intersection are changed to, respectively:

- 0.71
- C/e/

The following new note /e/ is added to these tables:

- /e/ Source: San Francisco Department of City Planning, "Mission Bay Special Studies - Transportation Network," prepared by DKS Associates, September 1986.

To accommodate this new note, the subsequent notes are given new letter designations (i.e., existing note /e/ becomes /f/, /f/ becomes /g/, etc.).

Tables VI.E.23 and VI.E.26, revised to show these staff-initiated text changes and the changes shown in the Response on pp. XV.E.25-XV.E.26, are presented on p. XV.E.50 and pp. XV.E.51-XV.E.54, respectively.

On p. VI.E.48, a reference mark for note /55/ is added to the end of the second sentence of the last paragraph:

- Since then, additional planning and engineering analyses have defined King Street to be a four- to six-lane arterial connecting the I-280 on- and off-ramps and The Embarcadero roadway./55,57/

The fourth sentence of the third paragraph under "Impact Conclusions," which begins on p. VI.E.52 and continues on p. VI.E.53, is corrected to state:

- The 2020 impact analyses, therefore, do not present a realistic scenario of transportation conditions; instead, the impact results are used to identify the types and magnitudes of transportation improvements that would accommodate projected travel demand, and which should be considered in planning for regional transportation systems beyond 2000. A detailed presentation of all mitigation measures for both analysis years is contained in the Mitigation section.

The following sentence is added before the first complete sentence on p. VI.E.53, and also following the last complete sentence on p. VI.E.58:

- Another implication of the 30-year horizon to buildout is the variability of transportation demand forecasts over such a long period. Forecast cumulative traffic and transit demands may occur before the year 2020 (and may, on the other hand, not be reached until after 2020).

The sentence starting on the last line of p. VI.E.58 and continuing on p. VI.E.59 is revised to state:

- The aforementioned two sets of conclusions are used to recommend possible mitigation measures (see Mitigation, p. VLE.198).

A reference mark for note /55/ is added to the end of the fifth listed item on p. VI.E.60:

- Streets within the Project Area containing four travel lanes would be Third, 16th, Fourth (north of China Basin Channel), Townsend, Owens and King, because those streets would continue to carry traffic to and from the Project Area, the Downtown & Vicinity, and other areas of San Francisco. All other streets within the Project Area would contain two travel lanes (one in each direction)./55/

The following sentences are added to the end of the second listed item at the top of p. VI.E.69:

- Since then, a portion of the track near 25th Street has been paved over. If freight rail service on this track were to be resumed, the paving would have to be removed (see also the discussion added on p. VLE.24).

On p. VI.E.79, the first paragraph after "South Bay Screenline" is revised and a new sentence is added, as follows:

- Modal shifts to transit are not assumed for the

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TABLE VI.E.23: P.M. PEAK HOUR INTERSECTION LEVELS OF SERVICE, 1985 AND 2000

	1985 V/C/a/ LOS/b/	2000 Alternative A V/C/a/ LOS/b/ %c/	2000 Alternative B V/C/a/ LOS/b/ %c/	2000 Alternative N V/C/a/ LOS/b/ %c/
<u>Existing Signalized Intersections in Project Area</u>				
Third and Berry	0.98	E 0.62	B 10 0.64	B 5 0.62
<u>Third and Townsend</u>	<u>0.71</u>	<u>C/e/ 0.57</u>	<u>A 15 0.52</u>	<u>A 10 0.55</u>
Third and Fourth / Mission Rock	0.83	D 0.74	C 10 0.68	B 5 0.73
Third and Mariposa	0.74	C 0.78	C 10 0.70	B 5 0.72
Third and 16th	0.69	B 0.67	B 10 0.64	B 5 0.63
Fourth and Townsend	0.31	A 0.50	A 10 0.51	A 5 0.56
Fourth and Berry	0.63	B 0.45	A 25 0.38	A 15 0.41
Seventh and Townsend	0.52	A 0.67	B 10 0.72	C 10 0.74
<u>New Signalized Intersections in Project Area</u>				
Third and King	/d/ --	0.89	D 5 0.89	D 5 0.92
Fourth and King	/d/ --	0.85	D 10 0.86	D 5 0.89
Fifth and King	/d/ --	0.77	C 10 0.76	C 10 --
Fifth and Townsend	/f/ --	0.56	A 15 0.56	A 15 0.54
Fifth and Berry	/d/ --	0.30	A 45 0.25	A 40 0.18
Owens and Berry	/d/ --	0.29	A 50 0.25	A 50 --
Owens and Alameda	/g/ --	0.13	A 40 --	-- --
Longbridge and Alameda	/g/ --	0.06	A 100 --	-- --
Owens and Sixteenth	/g/ --	0.33	A 20 0.36	A 25 0.14
Center and Daggett	/g/ --	--	-- 0.10	A 100 --
Fourth and Hooper	/g/ --	--	-- 0.22	A 10 --
Sixth and King	/d/ --	0.12	A 5 0.12	A 5 --
<u>Unsignalized Intersections in Project Area</u>				
Seventh and 16th/Mississippi <u>17</u>	/b/ D	<u>0.82/i/ D</u>	10	<u>0.85/i/ D</u>
Pennsylvania and Mariposa	/h/ D	0.78/i/ C	5	0.85/i/ D
<u>Signalized Freeway Access Points</u>				
First and Harrison (I-80 east on-ramp)	1.00/j/ F	1.27/k/ F	5 1.27/k/ F	5 1.27/k/ F
Second and Bryant (Sterling St. HOV I-80 east on-ramp)	0.37 A	<u>0.65 B</u>	-- <u>0.67 B</u>	-- <u>0.68 B</u>
Second and Harrison (to I-80 east on-ramps)	0.79 C	0.98 E	5 1.02 F	5 1.00 F
Fourth and Harrison (I-80 west on-ramp)	0.69 B	0.92 E	5 0.92 E	5 0.90 D
Fourth and Bryant (I-80 east off-ramp)	0.36 A	0.53 A	5 0.52 A	5 0.51 A
Fifth and Bryant (I-80 east on-ramp)	1.00/j/ F	1.46/k/ F	5 1.51/k/ F	5 1.44/k/ F
Fifth and Harrison (I-80 west off-ramp)	0.78 C	1.15 F	5 1.16 F	5 1.14 F
Sixth and Brannan (I-280 ramps)	1.00 F	0.92 E	5 0.92 E	5 0.97 E
Seventh and Harrison (I-80 west on-ramp)	0.60 B	0.74 C	5 0.74 C	5 0.74 C
<u>Unsignalized Freeway Access Point</u>				
Harrison and Essex (I-80 east on-ramp)	/j/ F	/j/ F 0	/j/ F 0	/j/ F 5

/a/ V/C stands for volume-to-capacity ratio.

/b/ LOS is Level of Service; ranging from A (best) to F (worst), see Appendix E for definitions.

/c/ Percent of total intersection volumes estimated to be originating in or destined to Mission Bay, rounded to nearest five percent.

/d/ 1985 counts were not taken because King and Berry Streets currently provide only local access.

/e/ Source: San Francisco Department of City Planning, "Mission Bay Special Studies - Transportation Network," prepared by DKS Associates, September 1986.

/f/ 1985 counts not taken because of low volumes at this "T" intersection.

/g/ 1985 counts were not taken because the intersection does not exist.

/h/ LOS calculated represents the worst movement level of service calculated for the intersection. For unsignalized intersections, V/C ratios are not calculated.

/i/ Intersection assumed to be signalized in future.

/j/ LOS F reflects the delays induced by poor traffic flow on the Bay Bridge approaches, not the ratio of volume-to-capacity.

/k/ Future V/C calculated based on saturated V/C calculated for 1985.

/l/ The level of service projections take into account the effect of Caltrain shuttles through the intersection to access the Seventh and Channel Street station. It is assumed the trains would be traveling at a speed of five miles per hour for those shuttle movements.

SOURCE: Barton-Aschman Associates, Inc.

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TABLE VI.E.26: P.M. PEAK HOUR INTERSECTION LEVELS OF SERVICE, 1985, 2000 AND 2020

	1985		2000		Alternative A			2020	
	V/C/a/	LOS/b/	V/C/a/	LOS/b/	%/c/	V/C/a/	LOS/b/	%/c/	
<u>Existing Signalized Intersections in Project Area</u>									
Third and Berry	0.98	E	0.62	B	10	0.73	C	15	
<u>Third and Townsend</u>	<u>0.71</u>	<u>C/e/</u>	<u>0.57</u>	<u>A</u>	<u>15</u>	<u>0.68</u>	<u>B</u>	<u>25</u>	
Third and Fourth / Mission Rock	0.83	D	0.74	C	10	0.84	D	15	
Third and Mariposa	0.74	C	0.78	C	10	0.92	E	15	
Third and 16th	0.69	B	0.67	B	10	0.74	C	15	
Fourth and Townsend	0.31	A	0.50	A	10	0.57	A	15	
Fourth and Berry	0.63	B	0.45	A	25	0.52	A	35	
Seventh and Townsend	0.52	A	0.67	B	10	0.77	C	15	
<u>New Signalized Intersections in Project Area</u>									
Third and King	/d/		0.89	D	5	1.02	F	15	
Fourth and King	/d/		0.85	D	10	0.97	E	10	
Fifth and King	/d/		0.77	C	10	0.88	D	15	
Fifth and Townsend	/f/		0.56	A	15	0.65	B	20	
Fifth and Berry	/d/		0.30	A	45	0.36	A	55	
Owens and Berry	/d/		0.29	A	50	0.39	A	65	
Owens and Alameda	/g/		0.13	A	40	0.17	A	60	
Longbridge and Alameda	/g/		0.06	A	100	0.12	A	100	
Owens and Sixteenth	/g/		0.33	A	20	0.30	A	35	
Center and Daggett	/g/								
Fourth and Hooper	/g/								
Sixth and King	/g/								
Iowa and Mariposa	/f/					0.70	B	25	
Owens and Hooper	/g/								
Third and Yuma	/g/								
Third and Hooper	/g/								
Third and China Basin	/f/								
Sixth and Daggett	/g/								
<u>Unsignalized Intersections in Project Area</u>									
Seventh and 16th/Mississippi <u>11</u>	/h/	D	<u>0.82/i/</u>	<u>D</u>	10	<u>0.67/i/</u>	<u>B</u>	10	
Pennsylvania and Mariposa	/h/	D	0.78/i/	C	5	0.75/i/	C	5	
<u>Signalized Freeway Access Points</u>									
First and Harrison (I-80 east on-ramp)	1.00/j/	F	1.27/k/	F	0	1.37/k/	F	0	
Second and Bryant (Sterling St. HOV I-80 east on-ramp)	0.37	A	<u>0.65</u>	<u>B</u>	--	<u>0.73</u>	<u>C</u>	0	
Second and Harrison (to I-80 east on-ramps)	0.79	C	0.98	E	5	1.13	F	5	
Fourth and Harrison (I-80 west on-ramp)	0.69	B	0.92	E	5	1.01	F	5	
Fourth and Bryant (I-80 east off-ramp)	0.36	A	0.53	A	5	0.58	A	10	
Fifth and Bryant (I-80 east on-ramp)	1.00/j/	F	1.46/k/	F	5	1.59/k/	F	10	
Fifth and Harrison (I-80 west off-ramp)	0.78	C	1.15	F	5	1.21	F	5	
Sixth and Brannan (I-280 ramps)	1.00	F	0.92	E	0	0.99	E	0	
Seventh and Harrison (I-80 west on-ramp)	0.60	B	0.74	C	5	0.79	C	5	
<u>Unsignalized Freeway Access Point</u>									
Harrison and Essex (I-80 east on-ramp)	/j/	F	/j/	F	0	/j/	F	0	

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TABLE VI.E.26: P.M. PEAK HOUR INTERSECTION LEVELS OF SERVICE, 1985, 2000 AND 2020 (continued)

	Alternative B					
	2000		2020			
	V/C/a/	LOS/b/	%/c/	V/C/a/	LOS/b/	%/c/
<u>Existing Signalized Intersections in Project Area</u>						
Third and Berry	0.64	B	5	0.68	B	5
<u>Third and Townsend</u>	<u>0.52</u>	<u>A</u>	<u>10</u>	<u>0.54</u>	<u>A</u>	<u>10</u>
Third and Fourth / Mission Rock	0.68	B	5	0.81	D	10
Third and Mariposa	0.70	B	5	0.84	D	5
Third and 16th	0.64	B	5	0.70	B	10
Fourth and Townsend	0.51	A	5	0.58	A	15
Fourth and Berry	0.38	A	15	0.46	A	30
Seventh and Townsend	0.72	C	10	0.87	D	10
<u>New Signalized Intersections in Project Area</u>						
Third and King	0.89	D	5	0.98	E	5
Fourth and King	0.86	D	5	0.96	E	10
Fifth and King	0.76	C	10	0.78	C	10
Fifth and Townsend	0.56	A	15	0.62	B	15
Fifth and Berry	0.25	A	40	0.24	A	35
Owens and Berry	0.25	A	50	0.29	A	55
Owens and Alameda	--	--	--	--	--	--
Longbridge and Alameda	--	--	--	--	--	--
Owens and Sixteenth	0.36	A	25	0.28	A	35
Center and Daggett	0.10	A	100	0.10	A	100
Fourth and Hooper	0.22	A	10	0.29	A	30
Sixth and King						
Iowa and Mariposa				0.61	B	15
Owens and Hooper				0.14	A	55
Third and Yuma				0.66	B	10
Third and Hooper				0.43	A	10
Third and China Basin						
Sixth and Daggett						
<u>Unsignalized Intersections in Project Area</u>						
Seventh and 16th/Mississippi <u>/I/</u>	<u>0.85/i/</u>	<u>D</u>	10	<u>0.78/i/</u>	<u>C</u>	15
Pennsylvania and Mariposa	0.85/i/	D	5	0.86/i/	D	5
<u>Signalized Freeway Access Points</u>						
First and Harrison (I-80 east on-ramp)	1.27/k/	F	0	1.37/k/	F	0
Second and Bryant (Sterling St. HOV I-80 east on-ramp)	<u>0.67</u>	<u>B</u>	--	<u>0.78</u>	<u>C</u>	--
Second and Harrison (to I-80 east on-ramps)	1.02	F	5	1.13	F	5
Fourth and Harrison (I-80 west on-ramp)	0.92	E	0	1.01	F	5
Fourth and Bryant (I-80 east off-ramp)	0.52	A	5	0.58	A	10
Fifth and Bryant (I-80 east on-ramp)	1.51/k/	D	5	1.63/k/	F	5
Fifth and Harrison (I-80 west off-ramp)	1.16	F	0	1.22	F	5
Sixth and Brannan (I-280 ramps)	0.92	E	0	0.99	E	0
Seventh and Harrison (I-80 west on-ramp)	0.74	C	0	0.78	C	0
<u>Unsignalized Freeway Access Point</u>						
Harrison and Essex (I-80 east on-ramp)	/j/	F	0	/j/	F	0

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TABLE VI.E.26: P.M. PEAK HOUR INTERSECTION LEVELS OF SERVICE, 1985, 2000 AND 2020 (continued)

	Alternative N					
	2000			2020		
	V/C/a/	LOS/b/	%/c/	V/C/a/	LOS/b/	%/c/
<u>Existing Signalized Intersections in Project Area</u>						
Third and Berry	0.62	B	5	0.71	C	10
Third and Townsend	0.55	A	15	0.61	B	20
Third and Fourth / Mission Rock	0.73	C	5	0.79	C	10
Third and Mariposa	0.72	C	5	0.73	C	5
Third and 16th	0.63	B	5	0.73	C	10
Fourth and Townsend	0.56	A	5	0.59	A	5
Fourth and Berry	0.41	A	20	0.42	A	25
Seventh and Townsend	0.74	C	5	0.83	D	10
<u>New Signalized Intersections in Project Area</u>						
Third and King	0.92	E	5	1.04	F	10
Fourth and King	0.89	D	5	0.93	E	5
Fifth and King	0.79	C	5	0.83	D	5
Fifth and Townsend	0.54	A	10	0.55	A	5
Fifth and Berry	0.18	A	30	0.23	A	45
Owens and Berry	--	--	--	--	--	--
Owens and Alameda	--	--	--	--	--	--
Longbridge and Alameda	--	--	--	--	--	--
Owens and Sixteenth	0.14	A	10	0.19	A	30
Center and Daggett						
Fourth and Hooper						
Sixth and King	0.12	A	5	0.19	A	10
Iowa and Mariposa						
Owens and Hooper						
Third and Yuma						
Third and Hooper						
Third and China Basin				0.41	A	10
Sixth and Daggett				0.10	A	100
<u>Unsignalized Intersections in Project Area</u>						
Seventh and 16th/Mississippi <u>/1/</u>	<u>0.68/i/</u>	<u>B</u>	5	<u>0.73/i/</u>	<u>C</u>	10
Pennsylvania and Mariposa	0.75/i/	C	5	0.81/i/	D	5
<u>Signalized Freeway Access Points</u>						
First and Harrison (I-80 east on-ramp)	1.27/k/	F	0	1.39/k/	F	0
Second and Bryant (Sterling St. HOV I-80 east on-ramp)	<u>0.68</u>	<u>B</u>	--	<u>0.77</u>	<u>C</u>	--
Second and Harrison (to I-80 east on-ramps)	1.00	F	0	1.19	F	5
Fourth and Harrison (I-80 west on-ramp)	0.90	D	0	0.97	F	0
Fourth and Bryant (I-80 east off-ramp)	0.51	A	0	0.55	A	0
Fifth and Bryant (I-80 east on-ramp)	1.44/k/	F	5	1.56/k/	F	5
Fifth and Harrison (I-80 west off-ramp)	1.14	F	0	1.19	F	0
Sixth and Brannan (I-280 ramps)	0.97	E	0	1.06	F	0
Seventh and Harrison (I-80 west on-ramp)	0.74	C	0	0.80	D	5
<u>Unsignalized Freeway Access Point</u>						
Harrison and Essex (I-80 east on-ramp)	/j/	F	0	/j/	F	0

TABLE VI.E.26: P.M. PEAK HOUR INTERSECTION LEVELS OF SERVICE, 1985, 2000 AND 2020 (continued)

- /a/ V/C stands for volume-to-capacity ratio.
/b/ LOS is Level of Service; see Appendix E for definitions.
/c/ Percent of total intersection volumes estimated to be originating in or destined to Mission Bay, rounded to nearest five percent.
/d/ 1985 counts were not taken because King and Berry Streets currently provide only local access.
/e/ Source: San Francisco Department of City Planning, "Mission Bay Special Studies - Transportation Network," prepared by DKS Associates, September 1986.
/f/ 1985 counts not taken because of low volumes at this "T" intersection.
/g/ 1985 counts were not taken because the intersection does not exist.
/h/ LOS calculated represents the worst movement level of service calculated for the intersection. For unsignalized intersections, V/C ratios are not calculated.
/i/ Intersection assumed to be signalized in future.
/j/ LOS F on the Bay Bridge approaches, not the ratio of volume-to-capacity.
/k/ Future V/C calculated based on saturated V/C calculated for 1985.
/l/ The Level of Service projections take into account the effect of CalTrain shuttles through the intersection to access the Seventh and Channel Street station. It is assumed the trains would be traveling at a speed of five miles per hour for those shuttle movements.

SOURCE: Barton-Aschman Associates, Inc.

South Bay screenline, because projected roadway conditions (for the year 2000) at the San Mateo County line are not expected to become severe enough to discourage vehicle use. While I-280 is projected to operate below capacity during the peak period, U.S. 101 would be at capacity for about three hours. Drivers seeking to avoid congestion on U.S. 101 could elect to take I-280 as an alternate route, or alter the time of departure.

The following new note reference mark is added after the last sentence of the paragraph under "Highways" on p. VI.E.85:

- Estimates of the number of trips from each travel component (Project Area, Downtown & Vicinity, rest of region) during the 4:00 to 6:00 p.m. peak period are shown in Table VI.E.10, pp. VI.E.87-VI.E.88./76a/

The following new note, /76a/, is added after note /76/ on p. VI.E.239:

- /76a/ The analyses here do not reflect effects on the Embarcadero Freeway and the I-280 extension (from 101 to Sixth Street) of the 7.1 magnitude Loma Prieta earthquake that occurred in October 1989. As of May 2, 1990, Caltrans estimates that the I-280 extension (from north of Silver Avenue to Fourth Street at Berry and to Sixth Street at Brannan) will be back in service by mid-October 1990. (Caltrans Information, telephone conversation, May 2, 1990.) Thus, the long-range projections in this EIR would not change. Current discussions regarding the Embarcadero Freeway focus on whether to repair and reinforce the existing overhead structure or replace it with a below-grade or at-grade roadway. The depressed roadway concept has been approved by the San Francisco Board of Supervisors (Resolution #262-90, April 1990) for feasibility studies. The conceptual design to be evaluated would provide about 85% of the carrying capacity of the existing (pre-earthquake) freeway.

Since the carrying capacity of that design is close to that of the Embarcadero Freeway, as assumed in the Mission Bay EIR transportation analyses, the long-term projections presented herein would approximate traffic conditions under that design (if the supporting local street and transit network were similar to that assumed in the EIR analyses).

It is not possible to predict the outcome of feasibility and funding studies at this time,

nor the exact types and locations of local street intersections and transit routes that would result if the below-grade or at-grade roadway concept were approved and funded. That information would emerge from planning studies separate from the Mission Bay EIR.

In Table VI.E.9 on p. VI.E.86, the unit modifier did not appear in the headings "Estimates of Congestion Duration." These headings are corrected, as follows:

- Estimates of Congestion Duration – 2.0 hrs.
- Estimates of Congestion Duration – 4.5 hrs.
- Estimates of Congestion Duration – 1 hr.
- Estimates of Congestion Duration – 2.5 hrs.

As pointed out in "Staff-Initiated Text Change" in the Draft Supplement to the Mission Bay Draft EIR, a revision is made to the second sentence of the last paragraph on p. VI.E.91 to correct a statement regarding future congestion on U.S. 101 at the San Mateo County line. As revised, this sentence states:

- The period of full utilization of capacity would increase from about one hour in 1985 to about three hours in 2000.

The typographical error in the Draft EIR does not change the analysis or conclusions of the text that follows this statement.

On p. VI.E.101, the reference mark to note /58/ at the end of the first sentence of the second paragraph under "CalTrain, BART (South Bay), and SamTrans" is corrected, as follows:

- A number of studies have been published recently that directly (or indirectly) evaluate the effects on CalTrain ridership that would result from relocation of the San Francisco CalTrain terminal from its current location at Fourth and Townsend Streets (where it would remain with Alternative N) to a new site about one-half mile to the southwest at Seventh and Channel Streets (where it is assumed to be with Alternatives A and B./59/

On p. VI.E.105, the second sentence in the first paragraph under "Highways" is revised to state:

- The Golden Gate Bridge would operate at capacity for about two hours, the Bay Bridge for about 4.5 hours, and U.S. 101 at the San Mateo County line for about three hours.

The second sentence of the first paragraph under "San Francisco - Oakland Bay Bridge," which starts on p. VI.E.111 and continues on p. VI.E.112, is corrected, as follows:

- Growth in vehicular travel emanating from the Downtown & Vicinity during the p.m. peak period is projected between 2000 and 2020, unlike the process of projection between 1985 and 2000. /87/

On p. VI.E.113, the first sentence of the second paragraph under "U.S. 101 at the San Mateo County Line" is revised to state:

- As a result of the cumulative growth in peak-period vehicular travel, the duration of congestion ($V/C = 1.0$) on U.S. 101 is projected to expand from less than one hour in 1985, to about three hours in 2000, and to over three hours in 2020.

The following paragraphs are added after the first full paragraph on p. VI.E.147:

- In August 1989, the San Francisco Departments of City Planning and Public Works, MUNI, and the San Francisco Redevelopment Agency reached an agreement on The Embarcadero / King Street roadway design which differs from the preliminary design assumed in this EIR analysis. The revised design provides for two travel lanes in each direction along The Embarcadero and King Street, west to Third Street; two lanes also would be provided in the westbound direction of King Street between Third and Fourth Streets. The remainder of King Street to the I-280 on- and off-ramps would have three travel lanes in each direction for peak-period traffic. In comparison to this revised roadway design, the EIR analysis is predicated on a six-lane design (three in each direction) for The Embarcadero and only two travel lanes in each direction on King Street. Possible changes from the traffic forecasts presented above would result from the change in travel lanes such that the volumes of westbound vehicles that could reach King Street's intersections in Mission Bay during the PM peak hour would be restricted.

Intersections in Mission Bay along King Street could be operating at LOS B, C or D during the PM peak hour, while nearby intersections on Berry and Townsend Streets could be operating at LOS A or B, if traffic flow restrictions are not taken into account. /92a/ Given that most drivers search for routes they perceive to be the fastest

available, some of the traffic that would not be heading toward or away from the I-280 ramps near Sixth and King Streets could divert to Townsend and Berry Streets (the streets paralleling King Street). As that type of traffic flow represents only a small portion of all traffic on King Street, that possible diversion to Townsend and Berry Streets would not degrade the levels of service on those streets to less than LOS B.

One other factor would have a strong effect on future levels of service for King Street's intersections. The installation of the MUNI Metro extension (from the Market Street subway) along the median of King Street would affect future traffic flows on that street, particularly for vehicles making left turns. The extent of those impacts would depend directly on assumptions made about future signal phasing plans and headways of MUNI Metro trains. As MUNI will continue to refine its operating plan for the MUNI Metro extension and as it would be premature to establish signal phasing plans for this general-plan-level EIR, the levels of service projected for King Street intersections presented here are general descriptions that could be refined at a later time when detailed service schedules for MUNI Metro and intersection signal phasing have been established.

The following new note, /92a/, is added after note /92/ on p. VI.E.240:

- /92a/ Detailed level of service presentations for individual intersections are included in background information for the EIR, available for public review at the Office of Environmental Review, 450 McAllister Street, San Francisco, California 94102.

The following is added to the end of the third listed item under "Alternative A" on p. VI.E.153:

- However, the connection from Indiana Street to 25th Street would not exist unless the paving at the Indiana Street / 25th Street intersection were removed. See also the discussion added on p. VI.E.24.

The last paragraph on p. VI.E.153, which continues on p. VI.E.154, is deleted, and the first full paragraph and the two listed items that follow it are revised, as follows:

- The Port of San Francisco has proposed that a rail connection be provided to the North Terminal either along Army Street or across Islais Creek, but has not secured funding for

that project. The 16th Street line would not be necessary if that optional connection were built. The connection between the Peninsula mainline and the Illinois Street lead to the Port's North Terminal, which could be required after 2000 with both Alternatives A and B, could be provided as follows:

- Build a new rail bridge across Islais Creek Channel that would connect the Quint Street lead serving the Port's Intermodal Container Transfer Facility (at the South Terminal) with the Illinois Street lead. The new trackage would have the advantage of providing a direct rail freight connection between the Port's North and South Terminals on Port property./99/
- Connect the Peninsula mainline with Western Pacific's abandoned track along Army Street. That connection would require construction of new track on city streets, or city or private property, in the industrial area between Army Street and Napoleon Street, west of Evans Avenue. Much of the involved acreage also has been selected for the construction of an underground transport sewer by the City's Clean Water Program. Extra reinforcement would have to be provided so that the sewer would not be damaged by the passage of freight trains over it.

The first note shown on Figure VI.E.14, on p. VI.E.155, Figure VI.E.15, on p. VI.E.157, Figure VI.E.19, on p. VI.E.180, and Figure VI.E.20, on p. VI.E.181, is revised to state:

- The Indiana Street line (one block east of I-280) no longer joins the Illinois Street line (one block east of Third Street) near 25th Street and so cannot serve the Port of San Francisco to the south, unless the paved-over area is restored.

The second sentence of the paragraph under "Alternative B" at the top of p. VI.E.156 is deleted and replaced with the following:

- The 16th Street lead connecting the mainline to the Port's North Container Terminal via the Illinois Street tracks would remain operational, and would not be affected by land uses projected for development by 2000.

The following paragraphs are added after the first full paragraph on p. VI.E. 174:

- In August 1989, the San Francisco Departments of City Planning and Public Works, MUNI, and the San Francisco

Redevelopment Agency reached an agreement on The Embarcadero / King Street roadway design which differs from the preliminary design assumed in this EIR analysis. The revised design provides for two travel lanes in each direction along The Embarcadero and King Street, west to Third Street; two lanes also would be provided in the westbound direction of King Street between Third and Fourth Streets. The remainder of King Street to the I-280 on- and off-ramps would have three travel lanes in each direction for peak-period traffic. In comparison to this revised roadway design, the EIR analysis is predicated on a six-lane design (three in each direction) for The Embarcadero and only two travel lanes in each direction on King Street.

During the PM peak hour, the intersections in Mission Bay along King Street could be operating at LOS C or worse, while nearby intersections on Berry and Townsend Streets could be operating at LOS A, B or C./92a/ The potential difference in service levels between those streets and the proposed provision of only two travel lanes on King Street east of Third Street could result in a redistribution of traffic flows among the three east-west streets in the northern area of Mission Bay. The most likely way that traffic could be redistributed would be when some of the traffic on King Street not heading toward or away from the I-280 ramps near Sixth Street would travel on Townsend or Berry Streets instead. If traffic flows among these three parallel streets would change to reach a greater equilibrium between capacity and demand, then the levels of service for the intersections on King Street would range from D to E, and the level of service for the adjacent intersections on Townsend and Berry Streets would range from C to D.

One other factor would have a strong effect on future levels of service for King Street's intersections. The installation of the MUNI Metro extension (from the Market Street subway) along the median of King Street would affect future traffic flows on that street, particularly for vehicles making left turns. The extent of those impacts would depend directly on assumptions made about future signal phasing plans and headways of MUNI Metro trains. As MUNI will continue to refine its operating plan for the MUNI Metro extension and as it would be premature to establish signal phasing plans for this general-plan-level EIR, the levels of service projected for King Street's intersections presented here are general descriptions that

could be refined at a later time when detailed service schedules for MUNI Metro and intersection signal phasing have been established.

New note /92a/ is shown on p. XV.E.56.

The first and third full sentences in the partial paragraph at the top of p. VI.E.182 are revised to state:

- Alternatives A and B include land uses that would replace the existing 16th Street and Illinois Street rail line connections. Those uses include residential development in Alternative A, and two wetland areas and open space in Alternative B. The wetlands would occupy the right-of-way of both the existing rail connection to the North Container Terminal via Illinois Street and the proposed rail connection to San Francisco's Northern Waterfront.

The listed items following the first full paragraph on p. VI.E.182 are revised. The first sentence of the "Belt Railroad: Embarcadero / North Point Sector" paragraph is revised, as follows:

- With Alternative A, access could be provided by use of the Indiana Street line to connect to the Illinois Street line south of the Project Area near 25th Street (if the paved-over section at the intersection of Indiana and 25th Streets were restored), then use of the Illinois Street line north to China Basin Street in the Project Area, and north to the Third Street Bridge.

The third sentence of the "Belt Railroad: Embarcadero / North Point Sector" paragraph is moved to the "North Container Terminal Service" paragraph that follows it. The "North Container Terminal Service" paragraph has further revisions and additions, and states, in its entirety:

- - North Container Terminal Service. By build-out, residential land uses would eliminate the existing 16th Street connection to Illinois Street, which provides access to the Port's North Container Terminal at Islais Creek. In the absence of other rail connections to this terminal, the existing Indiana Street line could be restored and used south to 25th Street and then east on 25th Street to Illinois Street, which accesses the terminal. Figures VI.E.5 and VI.E.6, pp. VI.E.21 and VI.E.23, show the connection between the SP mainline and the ATSF Indiana Street line via the SP lead west on 16th Street (see also Figures VI.E.19 and

VI.E.20). As the Indiana Street line is longer and crosses several more streets than the present rail freight route to the North Container Terminal, additional travel time would be incurred. The Indiana Street track's alignment is adequate for the 89-foot freight cars currently serving the Port. The curvature of the current Indiana Street track alignment, while adequate for accommodating an engine plus an individual long (89-foot-long) freight car, would not be able to handle long trains, with combinations of long and short freight cars. Furthermore, the Port's plans for handling such trains would be constrained by the narrow segments of the Indiana Street rail right-of-way (see the discussion on p. VI.E.24). In order for this track to accommodate the potential future service needs generated by increased cargo activity at the Port's North Container Terminal, portions of the Indiana Street track would require realignment. In curved portions of the alignment or narrow parts of the right-of-way where there is inadequate clearance between the track and adjacent buildings, land acquisition may be required to allow a realignment.

The last paragraph on p. VI.E.182, which continues on p. VI.E.183, is revised and new paragraphs are added after it, as follows:

- As noted earlier, the Port is studying the feasibility of providing more direct rail service to the North Container Terminal from the mainline, either from the mainline just south of Army Street via the old (if restored) WP tracks or from existing tracks serving the South Terminal, via a bridge over Islais Creek. However, as funding for those connections is not secured, restoration and preservation of the Indiana Street line outside the Project Area could be required for both Alternatives A and B. With respect to the Army Street connection, much of the involved acreage also has been selected for the construction of an underground transport sewer by the City's Clean Water Program. Extra reinforcement would have to be provided so that the sewer would not be damaged by the passage of freight trains over it.

If none of those options were found to be acceptable, retention of a 16th Street lead from the SP mainline could be considered. That access could be provided by the existing 16th Street lead, or a newly constructed lead track that parallels 16th Street instead of cutting through whole City blocks. Both

options would have implications for land uses in Alternatives A and B at full build-out, however. If the Illinois Street tracks (east of Third Street) were replaced by new tracks along China Basin Street (see, for example, Figure VI.E.14, p. VI.E.155) to provide access to the North Container Terminal, either of the 16th Street lead options would have to be extended eastward to join the tracks on China Basin Street. That extension would eliminate S/LI/RD and residential uses in Alternative A, and residential and (at least some) wetland / open space uses in Alternative B.

The remaining adjacent land uses, which would be primarily residential in both Alternatives (plus some open space) would be subject to noise and air emission impacts associated with rail activity. In Alternative A, other, non-residential nearby uses (S/LI/RD, Port-related/M-2) would not necessarily be incompatible with such rail activity.

The continued use of the existing 16th Street rail lead also would force changes in the land use programs for Alternatives A and B west of Third Street and south of 16th Street. In Alternative A, the uses for this portion of the Project Area are proposed for S/LI/RD and a limited amount of retail. It is likely that building configurations would need to be altered to accommodate the rail track; however, it is possible the same floor area of space could be retained given the building envelope limits assumed in the EIR. As noted above, land-use conflicts between rail activity and adjacent S/LI/RD uses may not be severe, depending on the types of building tenants that locate here; S/LI/RD covers a broad range of uses, many of which may be of an industrial nature.

For Alternative B, impacts of retaining the existing 16th Street lead would be more problematic given the primarily residential use proposed for this southern portion of the Project Area. (Some land designated for community facilities also would be affected.) As with Alternative A, it could be possible to reconfigure building plans to provide the same number of housing units; however, that would generate an increase in residential density in those blocks. As discussed above, rail activity adjacent to residents also would pose a greater land use impact; the operational impacts of rail activity, such as air emissions, noise, and potential pedestrian conflicts, would disrupt residential neighborhoods.

If the 16th Street lead were reconstructed to be parallel with and close to (or lie within) the 16th Street right-of-way, connecting service from the SP mainline to the Northern Container Terminal could be maintained and the severity of land use impacts otherwise associated with the option for retaining the existing 16th Street lead would be reduced. The configuration of land uses in the southern portion of the Project Area would not require alteration to the same degree as with the other 16th Street lead option. If the rail track were constructed parallel to (and close to), but not within 16th Street, there would be impacts on the streetfront uses proposed in Alternatives A and B. In Alternative A, residential and open space uses would be located on the north side of 16th Street; on the south side, S/LI/RD and retail uses are proposed. The presence of a rail track on either side would require consolidation of the affected uses in order to retain the same number of housing units or floor area of commercial space, or could lead to elimination of those uses. For Alternative A, the rail track would be less disruptive to adjacent uses if it were located on the south side of 16th Street (next to commercial, instead of residential, occupants).

In Alternative B, reconstruction of the 16th Street lead parallel to 16th Street would have the same impacts whether on the north or south side of the street, because residential and community facility uses are proposed for both locations. In either case, residential density would increase on those blocks, if the use were consolidated to retain the same number of housing units. As discussed above, residential use is generally incompatible with freight rail activity.

If a new 16th Street lead were constructed within 16th Street itself, less alteration of land uses in the Alternatives would be required. Non-street property would be necessary only for the wider turning radius needed for trains. However, rail activity could still be disruptive, particularly to residents. Furthermore, rail activity could affect traffic circulation on 16th Street as well as adjacent intersections such as 16th / Third Streets and Third / Mariposa Streets.

The degree of impact generated by either of the 16th Street lead track options would depend on the time of day and frequency of the rail activity. If rail activity continues at 1985 levels, disruption to surrounding populations and traffic circulation would be low. However, if the Port is able to attract

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more shipping activity at the North Container Terminal, rail use would increase, thus generating more impacts. This proposal for a new 16th Street lead, however, would require use of tracks at the CalTrain station near Seventh and Channel Streets to allow trains to back onto the 16th Street lead. The CalTrain station tracks can accommodate a train up to about 1,000 feet in length. Because trains currently running to the Port's North Container Terminal have comparable train-length limitations at the SF - SP Illinois Street Interchange Yard, and because the Port's North Container Terminal rail operations are not now hampered by that limit, this new limitation would create no change in Port rail operations.

On p. VI.E.202, the first complete sentence in the partial paragraph at the top of the page is revised to state:

- This facility would be many tracks wide, and would extend approximately 1,000 feet beyond the final Metro station.

On p. VI.E.203, the third and fourth items listed at the top of the page are revised to state:

- - a platform-to-platform connection between CalTrain and the adjacent MUNI Metro station;
- access along Seventh, Hooper and Owens Streets (for Alternative B), and Alameda and Owens Streets (for Alternative A) to provide adequate circulation and roadway capacity for bus access and automobile pick-up/drop-off at the CalTrain terminal.

The first sentence of Mitigation Measure E.9a, on p. VI.E.203, is revised to state:

- Install an underground "box conduit" (tunnel) beneath the improved King Boulevard right-of-way to retain a CalTrain Station in the vicinity of Fourth and King Streets. The underground tunnel would require an easement through property held by the project sponsor around the northwest corner of the Project Area.

The second sentence of the second paragraph on p. VI.E.206 is revised to state:

- Trains could use existing trackage (if restored) between the SP mainline and the Illinois Street tracks in or south of the Project Area; from the Illinois Street tracks which run in the Project Area, build new tracks north along China Basin Street, crossing the

channel on the Third Street Bridge to access The Embarcadero track.

The last paragraph on p. VI.E.206 is revised to state:

- Funding and implementation of this measure (whether for the interim or full alignment) would involve coordination among the project sponsor, Southern Pacific Transportation Company, Port of San Francisco, Department of Public Works and S.F. Public Utilities Commission.

The first sentence under "Year 2020 Mitigation" on p. VI.E.217 is revised to state:

- The following list of measures for year 2020 begins with Project-Related measures, followed by measures to mitigate regional travel demand impacts including those of the project Alternatives.

On p. VI.E.219, Measure E.29a is revised to state:

- Prohibit parking on King Boulevard during the peak period in the peak direction, providing three through lanes in each direction, with two left-turn lanes at Third Street and one left-turn lane at Fourth Street.

A page reference is corrected in Mitigation Measure E.29b on p. VI.E.219, as follows:

- Improve the capability and capacity of transit services connecting the rest of downtown San Francisco to the Peninsula to reduce auto travel through the Project Area and vicinity (see "Regional Transit Corridor - South Bay" mitigation, p. VI.E.216).

The first paragraph of Measure E.31, also on p. VI.E.219, is revised to state:

- To mitigate traffic impacts during the p.m. peak period at the intersection of Third and Mariposa Streets to have it operate at LOS D, implement one of the following improvements:

Under "Transit," the first sentence of Mitigation Measure E.32, which begins on p. VI.E.219 and continues on p. VI.E.220, is revised to state:

- To mitigate the impact of the cumulative peak-period ridership (including ridership associated with all EIR Alternatives) on the LOS of MUNI Metro and bus routes serving the Project Area in 2020, provide the following capacity increases shown in Table VI.E.30.

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Mitigation Measure E.33a, on p. VI.E.221, is revised to state:

- **E.33a Reconstruction of the SP / Santa Fe Indiana track south to 25th Street, including restoration of the paved section at the intersection of Indiana and 25th Streets.** The 25th Street track connects to the Illinois Street track, which accesses the North Container Terminal. This option would result in a more circuitous route than the Army Street track. **The curvature of the current Indiana Street track alignment, while adequate for accommodating an engine plus an individual long (89-foot-long) freight car, would not be able to handle long trains, with combinations of long and short freight cars.** Furthermore, the Port's plans for handling such trains would be constrained by the narrow segments of the Indiana Street rail right-of-way (see the discussion added on p. VI.E.24). In order for this track to accommodate the potential future service needs generated by increased cargo activity at the Port's North Container Terminal, portions of the Indiana Street track would require realignment. In curved portions of the alignment or narrow parts of the right-of-way where there is inadequate clearance between the track and adjacent buildings, land acquisition may be required to allow a realignment.

Mitigation Measure E.33b, on p. VI.E.221, is revised to state:

- **E.33b Construction of a new lead from under I-280 (or from tracks west of Evans Avenue) to the former Western Pacific track on Army Street, which reaches the North Container Terminal.** Much of the involved acreage also has been selected for the construction of an underground transport sewer by the City's Clean Water Program. Extra reinforcement would have to be provided so that the sewer would not be damaged by the passage of freight trains over it. Engineering and design considerations could include grade differences, and alignment of curves between existing I-280 supports.

On p. VI.E.221, the first sentence of Mitigation Measure E.33c is revised to state:

- **Construct new track south of the Project Area extending from the Quint Street lead via a new Islais Creek bridge (east of Third Street) crossing to the North Container Terminal.**

The following is added to the end of the first paragraph of Mitigation Measure E.33c:

- Much of the involved acreage also has been selected for the construction of an underground transport sewer by the City's Clean Water Program. Extra reinforcement would have to be provided so that the sewer would not be damaged by the passage of freight trains over it.

A new mitigation measure, E.33d, is added after Mitigation Measure E.33c, on p. VI.E.221:

- Construct a new lead track parallel to or within 16th Street to replace the track lost south of 16th Street within the Project Area. Detailed planning and engineering would be necessary to coordinate construction and operation of the new lead track with adjacent land uses. If the interim track were located within 16th Street, additional scheduling for trains might be necessary to minimize traffic disruption.

The last sentence in the partial paragraph at the top of p. VI.E.222 is revised to state:

- Selection among these measures requires an evaluation of costs against the relatively small amount of current rail freight shipments through the North Container Terminal, and the actual potential for greatly increased rail activity in the future associated with that terminal.

On p. VI.E.223, the clause "and control the use of any parking that may be provided for CalTrain passengers" is deleted from the end of Mitigation Measure E.34d. This measure, as revised, states:

- **Do not provide parking at the MUNI Metro stations in the Project Area.**

On p. VI.E.231, the first sentence of Mitigation Measure E.38 is revised to state:

- If CalTrain is not extended into downtown San Francisco, another option for transit service to the South Bay would be possible via the extension of light rail service (e.g., MUNI Metro) from San Francisco to the San Francisco International Airport and extending BART south into Santa Clara County.

The following is added to the end of note /55/ on p. VI.E.237:

- In August 1989, the King Street and The Embarcadero roadway design was revised to increase the number of lanes on King Street from that assumed in the EIR analysis. Between Fourth and Sixth Streets, the number of lanes in each direction during the peak

periods would increase from two to three; for eastbound travel only on King Street between Third and Fourth Streets, the number of lanes during the peak period would increase from two to three. In addition, the number of lanes on The Embarcadero roadway was reduced from three to two lanes in each direction. Additional information regarding traffic levels of service at certain key intersections for the current design is presented in the discussion of Variant 12's transportation impacts and on p. VI.E.147 and p. VLE.174 of the Final EIR.

A missing page reference at the end of the last sentence in note /70/ on p. VI.E.238 is revised, as follows:

- The projections of employment and of places-of-residence (of future employees) used to create the forecasts of work-related travel are explained in VI.B. Land Use, Business Activity, and Employment, pp. VI.B.50-VI.B.79, particularly Table VI.B.27 on p. VI.B.77, and VI.C. Housing and Population, pp. VI.C.51-VI.C.63, particularly Table VI.C.16 on p. VI.C.61.

Missing page references are filled in at the end of note /72/ on p. VI.E.239, as follows:

- /72/ The ratios established by MTC between work-related and other travel were used to create these travel forecasts, with the magnitude of future travel based on the population and employment forecasts created for this EIR (see VI.B. Land Use, Business Activity and Employment, pp. VI.B.63-VI.B.67 and pp. VI.B.76-VI.B.78, and VI.C. Housing and Population, pp. VI.C.38-VI.C.44 and VI.C.46-VI.C.49).

Missing table numbers are filled in at the end of the first sentence of note /85/ on p. VI.E.240, as follows:

- That growth in BART ridership cannot be identified directly from the forecasts included in Tables VI.E.11 and VI.E.12.

Note /87/, also on p. VI.E.240, is revised to state:

- /87/ The year 2000 forecasts incorporated the constraint that, with the Bay Bridge at capacity during the 4:00 to 6:00 p.m. period, travelers to or from the Downtown & Vicinity would shift to transit options and carpooling modes during those hours. As a result, the Downtown & Vicinity's vehicular volumes on the bridge in the year 2000 would be the same as in 1985.

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Table XIV.E.2 was mistakenly not included in the Draft EIR. This table, shown in this document on p. XV.E.63, now appears on p. XIV.E.12.

The following is added after the partial paragraph at the top of p. XIV.E.29, before "Parking Analysis":

• **VARIATION IN TRAVEL FORECASTS**

Travel demand forecasts analyzed in the Mission Bay EIR incorporate variations inherent in travel counts and forecasts. The following paragraphs explain the effects that different types of variations could particularly have on forecasts of future local traffic and transit travel, and their associated levels of service analyzed in the EIR.

The travel forecasts presented in this EIR should not be viewed as expressions of exact numbers, but rather as predictions of the most likely values expected to exist under conditions projected to affect future travel. There are two major reasons why the travel forecasts should be viewed as representing a range of numbers at least five percent and as much as 15 percent greater or smaller than the discrete values presented in the EIR for traffic volumes at local intersections or transit riders at screenlines.

The first reason is that there is that much variation inherent in the current counts from which the future travel forecasts are derived. Reasons for such variation include changes in daily travel patterns, and interruptions or degradations in roadway or transit services due to accidents or mechanical failures. Daily variations in trip departure times and routes caused by each traveler's decision not to deviate from past practices, or (conversely) to make changes due to anticipated problems or new opportunities, also affect travel demand.

The second reason to expect variations in the forecasts of future travel is that each of the assumptions applied to create the travel forecasts -- about geographic directions of travel, modes of travel used, and the percentage of travel to occur during peak hours -- is associated with a certain variation. Thus, for example, the percentages of persons employed in the Downtown & Vicinity traveling to the East Bay could vary from the percentage stipulated in the EIR, as could the percentages of persons driving alone or riding

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TABLE XIV.E.2: P.M. PEAK-PERIOD PERCENTAGES OF OUTBOUND TRAVEL FROM DOWNTOWN & VICINITY, 1985, 2000 AND 2020/a/

Screenline	Trip Purpose/b/									
	Home-Based-Work/b/		2020		Home-Based-Other		Non-Home-Based			
	1985	2000	% Change from 1985	Alt. A	% Change from 1985	Alt. B	% Change from 1985	Alt. N	% Change from 1985	/c/
Within /e/	3.6	4.5	25	5.5	53	6.0	67	4.3	19	22.0
SF Northeast	6.5	5.9	-9	5.6	-14	5.7	-12	5.7	-12	50.0
SF Northwest	15.2	12.8	-16	12.3	-19	12.5	-18	12.6	-17	24.0
SF Southeast	12.0	10.2	-15	9.7	-19	9.8	-18	10.0	-17	7.1
SF Southwest	20.0	16.5	-18	15.6	-22	15.8	-21	15.9	-21	17.5
North Bay	6.8	7.4	9	7.9	16	7.6	12	7.9	16	6.0
East Bay	23.3	29.8	28	29.8	28	29.7	27	29.9	28	1.1
South Bay	12.6	12.2	2	13.6	8	12.9	2	13.7	9	5.8
Total	100.0	100.0		100.0		100.0		100.0		100.0

/a/ The same geographic distributions apply to p.m. peak period and peak hour trips.

/b/ See Appendix E. P. XIV.E.7 for the definitions of these three trip purposes.

/c/ The same geographic distributions of trips from Downtown & Vicinity apply to the three Mission Bay Project Area Alternatives, and are not forecast to change from 1985.

/d/ Change between 1985 and 2000 or 1985 and 2020 in the share of total Downtown & Vicinity trips projected to be made to each area, does not represent change between 1985 and 2000 or 1985 and 2020 projected in the number of trips made from Downtown & Vicinity to an area.

/e/ These trips do not cross a screenline, but remain within the cumulative study area.

SOURCE: Barton-Aschman Associates, Inc. Based on place-of-residence distributions developed by Recht Hausrath & Associates, and regional travel distributions developed by MTC.

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BART, or as could the percentages of persons traveling away from the Downtown & Vicinity between 4:30 and 5:30 PM. The range of variation depends directly on what is being forecast.

The smallest variations would be associated with the percentages of workers traveling away from the Downtown & Vicinity between 4:30 and 5:30 PM, because extensive data have established strong predictive trends for this factor. A very small range in variation is associated with peak-hour and peak-period forecasts by mode at the screenlines, because of the very high probability that future travel demand to or from the Downtown & Vicinity would be defined by transportation supply. For example, this situation applies to travel across congested highway corridors in San Francisco (where more auto trips cannot be readily accommodated during the peak period). There is high probability (and thus little variability in the forecasts) that some of the highways would operate at or above capacity conditions during the p.m. peak period in the future. Travel corridors such as the Bay Bridge have very limited future capacity (supply) relative to future peak-hour (and peak-period) travel demand. Thus the forecasts that the Bay Bridge would be operating at full capacity beyond the two-hour peak period have a very small range in variation.

The middle range of variation applies to forecasts for a group of (non-freeway-access) intersections, or a group of MUNI lines serving common geographic areas. In San Francisco, where there often are different available route options on streets or MUNI to reach a desired destination, the collective travel forecasts of the geographic group are less variable than for an individual forecast within the group. Thus, for example, there is less variability in forecasting the number of trips on all MUNI lines from the Downtown & Vicinity to Mission Bay than there is for forecasting how many of those trips would occur on the 30-STOCKTON line.

The largest ranges in variation are associated with forecasts for localized travel for individual MUNI lines or intersections within Mission Bay serving only Mission Bay traffic. They incorporate not only the types of variations described above for screenline forecasts, but also greater variations reflected in a wider choice of transit or vehicle routes that could be selected by travelers to reach their destinations. In other words, there is greater variability in the forecasts for

localized travel than for travel crossing the regional screenlines because there are more transit and street route options available to travelers for such local travel than for travelers crossing the screenlines. Travel within systems with a large number of route options is more difficult to forecast than for systems with fewer or no alternate routes, thus making forecasts more variable.

Traffic counts collected at the I-280 off-ramp located at Fourth and Berry Streets provide a vivid example of the variation inherent in traffic counts. In November 1988, Caltrans counted vehicles at that location in order to compile information for the environmental assessment that agency is preparing on the reconstruction of I-280's terminal ramps in Mission Bay./12a/ The 1988 counts indicated that, between 4:30 and 5:30 PM, approximately 1,660 vehicles were using the I-280 off-ramp at Fourth and Berry Streets compared to the approximately 1,250 vehicles counted in 1985 for the Mission Bay EIR./12b/ Analysis of historical counts revealed that no discernible relationship existed between the counts at this location and regional growth in jobs or housing. This also was the case for other counts taken for the I-280 ramp in the 1980's. In 1980, there was a peak-hour count of 1,700 vehicles, higher than all other counts taken during the 1980's; in 1983 there was a count of 1,250 vehicles.

A number of possible explanations could be offered as to why the counts taken during the PM peak hour at the I-280 off-ramp during the 1980s do not increase steadily, as did the growth in jobs in San Mateo County or the growth in housing in the Downtown & Vicinity or even people's propensity to drive. It is possible that the variations in overall daily travel patterns described above could cause fluctuations in peak-hour traffic volumes on the ramp of from 50 to 200 vehicles from one day to another. Those fluctuations could be exacerbated by an accident or other event affecting the level of service perceived by motorists traveling on U.S. 101 or I-280. Thus, for example, relatively high volumes measured at one off-ramp could correspond with relatively lower volumes at other off-ramps. Greater understanding of such fluctuations requires more than a traffic count at a single location; complete travel count information for the years in question is required to compare total travel in the U.S. 101 and I-280 corridors so as to determine what the fluctuations in the I-280 ramp counts could be attributed to.

In any case, the travel forecasts presented in the Mission Bay EIR are all based on a travel forecasting model that was developed using 1985 data for population and employment, and travel to or from Downtown & Vicinity, by time of day, mode and direction. The predictive powers of the model are derived from the comprehensive review of transportation demand and supply relationships that existed in 1985. Therefore, all forecasts presented in the EIR are internally consistent with each other, since all baseline information used in the analysis is for 1985.

In summary, variations inherent in existing travel patterns and counts can create variations in the forecasts of future travel patterns and volumes. The smallest variations, either existing or future, would be associated with travel by mode across screenlines. The largest variations would be associated with travel demand forecasts for specific intersections or transit routes.

The following two new notes, /12a/ and /12b/, are added after note /12/ on p. XIV.E.32:

- /12a/ As discussed on p. V.11 of the Mission Bay EIR, the existing I-280 off-ramp at Fourth and Berry Streets will be replaced with a new set of on- and off-ramps that would touch down to grade east of Sixth Street to serve the new King Boulevard.
- /12b/ The Fourth and Berry off-ramp counts for 1985 are part of the background information for the Mission Bay EIR transportation analysis available for public review in the Office of Environmental Review at the Department of City Planning, 450 McAllister Street, San Francisco, California 94102. The 1988 Caltrans counts, and associated level of service calculations for Fourth and Berry Streets and other nearby intersections, also have been added to the background information available for public review.

On p. XIV.E.32, "op. city.", in notes /7/, /8/, and /10/ is corrected to "op. cit."

Note /14/, also on p. XIV.E.32, is corrected to state:

- /14/ See, for example, Environmental Science Associates, Inc. and Wilbur Smith & Associates, Parking Demand Study: Park Hill Residential Project, 12/22/82, where parking demand was found to be 1.00 spaces per dwelling unit or less.



F. AIR QUALITY

MOTOR VEHICLE EMISSIONS

Comment

There is another fact that has been in the news a lot lately, but was omitted from the EIR: the greenhouse effect. According to a recent report from the U.N. (Developing Policies for Responding to Climatic Change, WMO/TD-No. 225, April, 1988), we will have to reduce traffic by 50% in the next 60 years, in order to avoid increasing the temperature of the earth by 9 degrees and raising the level of the ocean by 5 feet. The flooding, droughts, and other dislocations caused by the greenhouse effect would cause billions of dollars of damage around the world, and would significantly degrade the quality of life. The Mission Bay project would increase traffic, and hence increase CO₂ and other "greenhouse gases." (Michael Vandeman)

Response

The "greenhouse effect" to which the commenter refers has been the subject of substantial study and debate during the past decade. Since the start of the industrial revolution, organic material -- consisting primarily of fossil fuels such as gas, coal and oil but also including wood and other plant biomass -- has been burned to produce power. Combustion of these materials, along with deforestation and some other, minor processes, released carbon dioxide (CO₂) into the atmosphere at a faster rate than it was being absorbed into the oceans or incorporated into new organic material through plant growth.

The result has been a slowly increasing atmospheric concentration of CO₂. Atmospheric CO₂ has increased from about 270 parts per million (ppm) in 1880 to about 340 ppm in 1980, a roughly 20% increase.^{/1/} Some researchers estimate that atmospheric CO₂ may reach 600 ppm in the next 100 years.^{/1/}

CO₂ allows short-wave radiation from the sun to pass through the atmosphere to the surface of the Earth. The long-wave radiation generated by the Earth, however, which normally travels through the atmosphere into space, is absorbed by CO₂. The increasing CO₂ concentration in the atmosphere is thus believed to lead to a warming of the lower atmosphere.

An increase from 300 to 600 ppm has been estimated to correspond to a mean global temperature increase of 2.0 to 3.5°C. A mean temperature rise of this magnitude could expand the volume of water in the ocean, resulting in a sea level rise of two to three feet. An increase in mean annual temperature of even 2.0 or 3.0°C also could have adverse effects on climate, agriculture, wildlife and native plants, water supply, and many other aspects of the environment.^{/1/}

Mission Bay (and regional growth in general) would result in increased consumption of fossil fuels, with an attendant increase in release of CO₂ into the atmosphere. This would occur in conjunction with any urban development, the magnitude of the effect being related roughly to the size of the development. On a global scale, however, the contribution of the project to the greenhouse effect would not be measurable.

The scientific community is still somewhat divided concerning the magnitude, timing and secondary effects of the greenhouse effect. The greenhouse effect has probably come about as the result of worldwide human activities over a period of more than 100 years. A worldwide program over a similar period will probably be needed to reverse the greenhouse effect. This program would include switching to other types of power, such as nuclear or solar (which would reduce the consumption of fossil fuels); the reforestation of millions of acres on several continents (which would absorb large amounts of CO₂ and release oxygen as a product of biomass growth); and substantial advances in energy conservation (to reduce use of fossil fuels).

See also "Sea/Groundwater Levels" in XV.J. Hydrology and Water Quality, pp. XV.J.3-XV.J.5.

The following text is added before the subsection "Odors" on p. VI.F.20 of Volume Two:

• THE GREENHOUSE EFFECT

The greenhouse effect is one of the basic processes through which the atmosphere is warmed, and it has been occurring for as long as the Earth has had an atmosphere. Some people have suggested that the greenhouse effect should be called the atmospheric effect because of the way it works. Much of the short-wave radiation (sunlight) reaching the Earth passes through the atmosphere to strike the Earth's surface, where it is either reflected

or absorbed. The absorbed energy is then reradiated as long-wave radiation (heat), which various constituents in the atmosphere can absorb. If this process did not occur, the average temperature at the Earth's surface would be about 40°C cooler than it is. Some gases absorb radiant energy (at either short or long wavelengths) and others do not. Gases which absorb the long-wave radiation emitted by the Earth at the surface are often referred to as greenhouse gases. An increase in the amount of greenhouse gases present in the lower atmosphere would, therefore, lead to an increase in the lower atmosphere's ability to retain heat, and a subsequent increase in average global surface temperatures. This is why the greenhouse effect has become such an important issue. As a result of human activities, concentrations of greenhouse gases in the atmosphere have been and are expected to continue increasing, resulting in increased average global temperatures, along with accompanying climatic and social changes.

Of the greenhouse gases, carbon dioxide (CO_2) is most abundant in the atmosphere and would have the most effect on temperature. CO_2 is an important constituent of the Earth's atmosphere, and is required by plants much as oxygen is required by animals for survival. CO_2 levels are increasing worldwide as a result of the burning of fossil fuel (coal, oil, etc.) and through depletion of the world's forests, especially tropical rain forests (deforestation). Pre-industrial CO_2 levels are estimated to have been 270 parts per million by volume (ppmv); present levels are about 340 ppmv. Estimates of future CO_2 concentrations vary widely. Computer models predict a concentration of between 367 and 531 ppmv by the middle of the next century. Future concentrations will depend on many factors that are difficult to predict, including future levels of CO_2 emissions and the rate of deforestation. CO_2 concentrations and global temperatures have been higher at times in the Earth's approximate five-billion-year history and have been lower at other times. Other greenhouse gases include methane, nitrous oxide, chlorofluorocarbons, and ozone; by the year 2030, the combined effect of these gases is expected to equal the effect of CO_2 alone.

Estimates of overall global temperature increases (between 1.5 and 4.5°C) and subsequent climatic changes vary, but most scientists agree that the results potentially

could be catastrophic. These changes could include a partial or complete melting of the arctic ice cap and thermal expansion of the oceans, resulting in an increase in the mean sea level and subsequent flooding of low-lying coastal areas; a change in regional climates (not only in temperature, but in precipitation and in evaporation rates), resulting in changes in agricultural uses. Increasing CO_2 levels may also directly affect agriculture in some regions. It is unknown whether this would be a beneficial effect or a negative effect, as increasing plant sizes may cause higher production yields, or increasing competition from weeds may bring lower production. The total effects are not known but, as computer models become more sophisticated and as the initial effects of the temperature change start to appear, expected changes associated with the greenhouse effect will become more evident.

Mission Bay (and regional growth in general) would result in increased consumption of fossil fuels, with an attendant increase in release of CO_2 into the atmosphere. This would occur in conjunction with any urban development, the magnitude of the effect being related roughly to the size of the development. On a global scale, however, the contribution of the project to the greenhouse effect would not be measurable.

Comment

. . . [Y]ou are going to damage CalTrain by moving one of its stations farther away from the City so that it will get less use. There is very little support for public transit in this project. The automobile is the biggest problem in regard to air quality. (Michael Vandeman)

Response

The commenter is correct in identifying the automobile as the greatest single source of air pollution in the City, and within the Bay Area as a whole. Ridership on public transit and carpooling must be increased and commute distances must be decreased in the future if air quality goals are to be met. The CalTrain service could provide up to 4% of the total passenger trips for commuters during the peak travel period, reducing automobile travel on the Peninsula and within the City.

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The utility of the CalTrain service for commuters is related to the distance from the terminal to local centers of employment. Past consideration by transportation agencies of a plan to extend the CalTrain line into the downtown area supports this contention. It is reasonable to assume that if the CalTrain terminal is moved farther away from employment centers within the City, future ridership would not increase as much as it would if the terminal remains in the current location (see the discussion of Variant 9 [CalTrain Station Location] on pp. VII.51-VII.54 of Volume Two) or if it were moved downtown. The Mission Bay development itself would become an employment center, and could generate ridership for CalTrain. Development in the South of Market area also is intensifying. Mitigation measures for the relocation of the station are identified on pp. VI.E.202-VI.E.204 of Volume Two, VI.E. Transportation.

See the Responses in XV.E. Transportation, pp. XV.E.23 and XV.E.30-XV.E.32, for further discussion of the CalTrain station location.

CONSISTENCY WITH AIR QUALITY PLANS AND REGULATIONS

Comment

. . . On pp. II.57 & VI.F.15-19, you admit that there will be significant negative effects on emissions of CO, hydrocarbons (and hence, ozone), and NOx. The Bay Area is already a Nonattainment Area with respect to CO and ozone, so this project, by contributing to violations of the national [ambient] air quality standards (NAAQS), would violate the Clean Air Act. And, more importantly, it would contribute to a considerable measure of illness, death, and degradation of life. Recent reports from the EPA reveal that even if we met the ozone standard, that would not be sufficient to protect the health and well being of our citizens: the current ozone standard is not strict enough! . . .

On pp. II.58 & VI.F.19-20, you admit that the Mission Bay development would in some ways be inconsistent with the 1982 Air Quality Plan (AQP) (due to growth inducement and conflicts with the ozone and CO standards): "In all, Mission Bay therefore would not be entirely consistent with the goals of the Air Quality Plan, because full development would generate larger amounts of pollutants than the Air Quality Plan assumed." Since, under the Clean Air Act, the

Air Quality Plan has the force of law, you are actually admitting that the project would violate the law. No federal agency is allowed to approve or fund a project which fails to conform with the State Implementation Plan (SIP), which in our case is the AQP (42 USC 7506c). Nor is the federal government allowed to enter into any contract with a person (including a corporation or agency) who violates any requirement of a SIP (42 USC 7606a). Of course, common sense would tell you that a project which exacerbates air pollution would be in conflict with a law (or plan for carrying out that law) whose purpose is to reduce air pollution!

. . . [H]ow much money does it take, to compensate for being ill? Can any amount of money compensate for ill health? I don't think so. (Michael Vandeman)

Response

The Clean Air Act is implemented through State Implementation Plans prepared by each state, of which the Bay Area Air Quality Management District's (BAAQMD's) Air Quality Plan is a part, and through local rules and regulations of the air quality management agencies. Rules and regulations provide specific control of stationary and mobile sources, while the Air Quality Plan provides long-range projections of air quality, strategies for attaining and maintaining air quality, and general policies and objectives. Traffic projections tied to the land use assumptions for future years are used to estimate mobile source emissions for inclusion in the Air Quality Plan.

As indicated by the commenter, all the Mission Bay Alternatives would generate substantial amounts of criteria air pollutants. The primary source of these pollutants, however, would be project-related vehicle travel; emissions from these mobile sources are regulated not by the BAAQMD, but by the California Air Resources Board. This lack of local control over mobile sources of air pollutants makes their regulation by local agencies difficult. In general, local agencies must rely upon regulation of the land uses which support or attract these mobile sources. On p. VIII.3 of Volume Two, Chapter VIII. Unavoidable Significant Environmental Effects, Mission Bay's addition to cumulative regional vehicular air emissions is listed as a significant unmitigable impact.

The Mission Bay Alternatives would violate the Clean Air Act only if they were to violate a specific BAAQMD regulation or were in conflict with policies and strategies presented in the Air Quality Plan. These issues are considered in the air quality impact analysis in the EIR; all of the Alternatives would exceed the land use density for the area that was used as a basis for preparation of the Air Quality Plan, as identified in the EIR. The ambient air quality standards are health-based standards so, to the extent that Mission Bay contributed to excesses of air quality standards, it would have an incremental adverse effect on public health.

With regard to the adequacy of the standards themselves, both the National Ambient Air Quality Standards (NAAQS) and the state standards are based upon public health effects studies. The Clean Air Act requires that the standards periodically be reviewed, and adjusted as appropriate. For example, the ozone standard was adjusted down from 0.12 to 0.10 ppm in 1982 as a result of new information concerning the environmental and health effects of this pollutant. As knowledge concerning air pollutant effects expands and becomes more sophisticated, the standards may periodically be readjusted, becoming progressively more appropriate with time. The Mission Bay development would be required, as would the rest of the community, to meet the air quality standards in effect at the time.

AIR QUALITY IMPACTS AND MITIGATION

Comments

... The mitigation measures suggested [air quality and energy impacts] ... fail to take into account the opportunities for mitigation through tree planting and landscaping. An acre of green plants, for example, has been found to absorb the carbon dioxide from the cars of 50 commuters and the polluting ozone of 8 cars. The section on air quality should also more correctly include the atmospheric impact of the project vis a vis energy consumption and the subsequent increase in the Bay Area's contribution to the carbon dioxide load (e.g., Greenhouse effect). This is not an abstract concern but one of vital global impact. Recent research at the Lawrence Berkeley Lab has found that world energy use is the main contributor to atmospheric CO₂. Since some studies have shown that a single large shade tree can utilize the equivalent carbon content of 2-3 houses per day, it would behoove the city to develop a formula for the number of trees

required for this and other projects and require that the developers put up the funds to have these trees planted somewhere in San Francisco. (Isabel Wade, Urban Resource Systems)

p.VI.F.25--Air Quality: Mitigation and p.VI.H.25--Energy: Mitigation. An important mitigation measure to offset the air quality impacts of auto use and other fossil fuel-related energy consumption is missing. Street trees are well known to purify the air and to counteract the ever more threatening "greenhouse effect" through the exchange of CO₂ for O₂. Street tree planting should be maximized both on and off the project site. (Ruth Gravanis)

Response

The greenhouse effect is discussed in the Response on pp. XV.F.1-XV.F.2.

The impact of emissions from combustion of natural gas for space heating within project buildings is addressed on pp. VI.F.12-VI.F.13 of Volume Two. Space heating emissions would be negligible compared to motor vehicle emissions.

Emissions associated with generation of electricity are qualitatively discussed on p. VI.F.9 of Volume Two. Assuming that all of the Project Area's demand for electricity were filled by natural-gas-fired power plants, Alternative A would be associated with a net increase in power plant NO_x emissions of about 0.4 ton per day by 2020. Emissions of the other criteria pollutants would be minor.

These additional NO_x emissions would contribute to the project's identified potential significant effect on regional air quality. Many of the mitigation measures listed on pp. VI.H.21-VI.H.25 of Volume Two, VI.H. Energy, would help to reduce consumption of electricity and the corresponding NO_x emissions.

Trees are generally desirable from an energy and air quality perspective. Trees can shelter houses from the sun and wind, decreasing summer air-conditioning loads and winter heating loads. Deciduous trees are best for southern exposures because they shade buildings in summer and, dropping their leaves in winter, allow winter sunshine to help warm buildings. Evergreen trees are best for northern exposures because they shield buildings from cold winter winds better than deciduous trees. In the relatively dry western United States, trees generally increase the local moisture content of the air, which helps

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to moderate temperatures. This decrease in energy demand is translated, on a regional basis, into improved air quality because power plants burn less fuel. Trees also are desirable for air quality because they absorb CO₂ and criteria air pollutants, release oxygen, and intercept and precipitate airborne particulate (dust). Trees are also valued for aesthetic reasons, provide habitat for urban wildlife, and slightly reduce noise transmission.

With regard to a solution to the greenhouse effect, however, the benefit of trees is limited. The CO₂ is absorbed by the plant and an equivalent amount of oxygen is released; the carbon is used in the growth of the tree. Thus, the absorption of CO₂ is seasonal, being greatest during the growing season and very little in the winter when plants are dormant. Young trees will absorb more CO₂ for growth than will mature trees. Trees in urban plantings also require considerable maintenance (leaf collection, watering, pruning, spraying) which itself requires a substantial expenditure of energy. Because of the generally poor growing conditions in high-density urban developments and the enhanced potential for vandalism and other damage to the trees, a substantial amount of replanting may be necessary. If the dead leaves and branches of trees are disposed of by burning, then an amount of CO₂ equivalent to that originally absorbed in the growth of this biomass is released back into the air.

The utility of trees for improving air pollution is also limited. While trees can absorb small dosages of air pollutants with no noticeable effect, high concentrations of air pollutants, especially nitrogen oxides and ozone, are likely to damage the growing tissue of the tree, resulting in twisted, diseased and stunted trees. Such damage is commonly observable on trees planted adjacent to major thoroughfares and highways. Since ozone is formed over several hours as a pollutant cloud or plume that travels downwind, planting trees in San Francisco -- where there is little ozone and which is upwind of the portions of the Bay Area where ozone is a problem -- would have no effect on ozone concentrations.

Finally, the acreage of trees needed to substantially offset the air quality impacts of the project would be substantial. If the information provided by the commenter is correct -- that an acre of trees can offset the air pollution of 50 commuters -- then roughly 100 to 300 acres of trees, depending upon the Alternative selected, would be needed to offset the effects of commute traffic generated by the project. Larger acreages would be needed to offset the effects of non-commute traffic and building energy uses.

While often surprising to many, a concern with tree planting is its potential contribution to smog. The relationship between plants and the atmosphere is more complex than indicated in the Comment. In addition to absorbing CO₂ and releasing oxygen, some trees and shrubs release volatile organic compounds (VOCs) similar to those released by various human activities. In combination with nitrogen oxides released by combustion, VOCs create smog. While the VOCs generated by plants are not a problem in rural areas due to the relative lack of nitrogen oxides, in urban areas these emissions could erode progress toward mandated air quality goals. It is thus important to select carefully the species of trees and shrubs used for major plantings.

In short, while tree plantings should be encouraged as mitigation for both energy and air quality impacts of the project, they must be viewed as only a minor contributor to such mitigation.

NOTES - Air Quality

/1/ "The Greenhouse Gases," United Nations Environment Programme, UNEP/GEMS Environment Library No. 1, 1987.

STAFF-INITIATED TEXT CHANGES FOR AIR QUALITY

The following staff-initiated revisions are made to Volume Two, VI.F. Air Quality, of the Mission Bay Draft EIR.

The following new sentence is added to the partial paragraph at the top of p. VI.F.24:

- **However, more stringent measures may be necessary for removal of soils containing hazardous materials.**

Note /8/, on p. VI.F.26, is revised to add "December" following 1982 Bay Area Air Quality Plan.

In note /15/ on p. VI.F.27, the reference mark for note /17/ is deleted from the end of the first sentence.

The text of note /27/, on p. VI.F.28, is deleted and replaced with the following:

- **/27/ San Francisco Department of City Planning, "Canal Systems Special Study for Mission Bay," September 1986, Section IV.**



G. URBAN DESIGN

COMPATIBILITY WITH ADJACENT AREAS

Comments

We are concerned that Mission Bay is being designed as an isolated neighborhood with little or no integration to the dynamic and growing neighborhoods of Potrero Hill and Showplace Square on the southwest side of the project. It is interesting there are no architectural drawings in the EIR of the south and west sides of the project. The reason is it is a virtual wall between Mission Bay and the rest of the city. (John B. deCastro, Potrero Boosters and Merchants Association)

Potrero Hill, with a height limit of 40', should not be shut off from its neighbors by a wall of high structures. The plans seem to protect and isolate Mission Bay, while shutting out Potrero Hill with high walls of structures. In building Mission Bay housing, consideration should be given to preserving views of long established neighborhoods that are the pioneers of the City. (Babette Drefke, Potrero Boosters and Merchants Association)

As the project now appears to be heading, there will be significant isolation between Potrero Hill and the Mission Bay project at the south and southwest boundaries, caused by planned tall buildings, railroad tracks and the Interstate 280 Freeway. The project must concentrate on integration with its neighboring communities. Additionally there should be a way to cross the railroad tracks easily from Mission Bay to Potrero Hill and Showplace Square. Mission Bay should not be isolated from its neighboring areas by barriers. As currently designed the project may need to be renamed 'Barrier Bay'.

One [area we feel keenly about] is isolation and integration. The way that we see the plans as now drawn, we see a great deal of isolation, Mission Bay being isolated on all sides. It's not being integrated into the areas around it, not enough streets through, being cut off by the railroad tracks, by the overhead of 280. . . . [Those problems are] not being solved as far as we can see in what we have been given so far. Undergrounding of the tracks is one thing we need to discuss at great length. (Arden Smith, Potrero Boosters and Merchants Association)

The Report does not address the impact of the project on the surrounding areas to the west and to Potrero Hill on the south. We feel that it is incomplete without this kind of assessment.

In particular, we are distressed by the "enclave" that has been created, with barriers to the west and south created by massive buildings and an 11 story height limit next to the Freeway. There is only one through street to the north (Third Street) and one to the west (16th Street). We would like to see this project integrated into the rest of the City. We believe it should be accessible to others and that its citizens should have easy access to the rest of the city. (Gloria Van Winkle, Potrero Boosters and Merchants Association)

. . . After sifting through these 1700 pages we have come to the conclusion that this Environmental Impact Report does not adequately address the Project's integration with the surrounding neighborhoods!

There are positive [and] negative points to each of the three studied alternative designs and many issues to resolve in the planning process. We mistakenly assumed, however, that an Environmental Impact Report would address the impact of a project upon the existing surrounds. Instead, the report viewed the project more as an island unto itself with little regard as to its compatibility with its neighbors. A development should not be plunked down within the boundaries of the land without considering the effect upon the existing land uses and needs of the adjacent areas.

This is particularly true on the south and southwest boundaries of Mission Bay that adjoin Potrero Hill and Showplace Square. There are no artist renditions of any of street scenes for these transition zones in this material because it is not a pretty sight! A cross section of the project or a three dimensional view would tell a completely different story. It would show that Mission Bay is a bowl with higher buildings on the edges, not only along the area north of the Channel but also along I-280 and the southern boundary. This is not a gentle transition. This bowl effect will make Mission Bay look more like the Great Barrier Bay. . . .

Members of the Planning Commission, if there is one thing that we can stress to you during this hearing on the Environmental Impact Report it would be that to plan for a community in a void is unacceptable. We should look again to the south

,

and southwest boundaries and ask why there is no effective integration of Mission Bay with its already viable and exciting neighbors of Potrero Hill and Showplace Square. We do not need exterior barriers to further isolate us and the rest of San Francisco. We do not want Mission Bay to become the Great Barrier Bay! (Rebecca Ford, Potrero Boosters and Merchants Association)

. . . [R]ight now the tracks literally are the proverbial cut-off between what the EIR calls the north of Potrero Hill area and the project. They form a very physical and very ominous barrier in almost a classic sense of the good side and the bad side of the tracks. There is so much potential for development of that north of Potrero area.

In fact, the Boosters had a presentation at our September meeting of what sounds like a very exciting plan for a 7th Street public market in the Baker-Hamilton Building. We view that in principle, in any case, as the type of use that we would very much like to encourage, but which, unfortunately, will be cut off . . . if we have a barrier as those tracks. . . .

I want to let you know that I can basically see and enjoy the Mission Bay project area from my living room. The site lies between my home and my job. In essence, it shares a geographic, potentially cultural, commercial and neighborhood affinity. Somehow, I feel the goal of having a continuity of these neighborhood interests represented in the plans that are evaluated in the Draft EIR, that they're not well served and that the Draft EIR represents a very insular view of the potentials for the Mission Bay project.

. . . I want to . . . highlight the need to rethink the impact of a project, which is not physically isolated from the neighborhoods to the south and west. This isolation is unfortunately reinforced by the proposed project build-out phasing. To do this, the Draft EIR must challenge the status quo, to see the project not isolated by a freeway and railroad tracks; the new housing and commercial areas not set apart by a barrier of commercial and office buildings. And most importantly, to see the existing commercial and industrial land uses on the border of the project not as permanent, warranting a sort of Fort Apache mentality in siting the project, but as transitory uses that will respond to the signals put out by the project.

I cannot stress enough that if the railroad tracks are undergrounded or at least put in a trench, then the project streets can and should extend to

the west and south. If the freeway is viewed as a design challenge, I might say as the recent AIA Embarcadero roadway project has shown is possible, it need not be a barrier at all. Let's strike the gray zone on the project alternative maps and see the real alternatives. In this manner, the Draft EIR can be a farsighted stimulus for a better project.

The residents of Potrero Hill are looking forward to accessing Mission Bay, its homes, stores, offices, parks and cultural facilities. I might say in the same manner that residents of Pacific Heights access Union Street and the Marina. Thank goodness that nobody had the gall to plan a gray zone barrier setting these neighbors apart. (Richard Moss, Potrero Boosters and Merchants Association)

Response

The EIR acknowledges the existing visual separation between the Mission Bay Project Area and other neighborhoods, noting on p. VI.I.5 of Volume Two that "the elevated I-280 freeway visually defines the southwesterly boundary of the site." The existing CalTrain tracks, beneath the freeway structure between Mariposa Street and China Basin Channel, add to the physical separation of the Project Area and areas to the east (Showplace Square and North Potrero Hill). Streets currently crossing those tracks at Mariposa, 16th and King Streets provide access to the west and southwest. As noted in the Comments, Third Street and Sixth Street are through streets connecting the Project Area to the north, south and west.

Among the EIR Alternatives and variants analyzed, additional street access routes are identified and evaluated that would help offset the effects of the highway and rail tracks. Alternatives A and B both include an Owens Street / Iowa Street right-of-way that would provide new access into the Project Area from the south. That new right-of-way also is incorporated in Variant 11 (EIR Hearing Proposal) and Variant 12 (Development Agreement Application). (See XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and XV.P.27-XV.P.46, respectively, for a detailed description of those variants.) Alternative A and Variant 11 also include additional south side access routes along the Long Bridge Street axis. Variants 11 and 12 offer new connections along the west side of the Project Area in the vicinity of Hooper Street.

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G. Urban Design

The connections between Mission Bay and surrounding areas are not defined only in terms of physical rights-of-way. The mix of land uses and amenities also could influence the interaction between Mission Bay and adjacent neighborhoods. Alternative A and Variants 11 and 12 contain retail uses along the Third Street and/or Long Bridge and 16th Street connectors, which would likely attract populations from outside Mission Bay. (In particular, the amount of retail space contained in Variants 11 and 12 would require a clientele from a broader area in order to be successful.) Similarly, new open space and recreation amenities, many of which reach out toward the perimeter of the Project Area, also would be likely to attract residents from nearby neighborhoods.

On p. VI.I.31 of Volume Two, the EIR acknowledges that Alternative A would have higher structures on the north, west and east. Alternative B would have office uses of up to eight stories east of I-280, as stated on p. VI.I.33. Taken together, the existing freeway and tracks, and new development east of the freeway in those two Alternatives would continue the sense of visual separation and lack of integration between Mission Bay and the surrounding areas. Under existing zoning and height and bulk controls, Alternative N would have up to 50-foot-tall buildings east of I-280; taller buildings, up to 130 to 200 feet, would be possible in the central portion of the Project Area (see p. VI.I.35 of Volume Two, and Figure XIV.A.6 on p. XIV.A.9 of Volume Three, Appendix A). Variants 11 and 12 would have S/LI/RD space (and in the case of Variant 12, some office space).

The following text is added as a new third full paragraph on p. VI.I.31 of Volume Two to discuss views of the Project Area with Alternative A:

- **From lower elevations of the north end of Potrero Hill, and other areas west of Seventh Street, the elevated I-280 Freeway is a visual boundary of the Project Area. S/LI/RD and residential development in Alternative A, up to six and eight stories high, respectively, would increase the sense of visual separation between the Project Area and those neighborhoods to the west and south. That effect would vary, depending upon the actual design, height and massing of new structures in Mission Bay.**

On p. VI.I.33 of Volume Two, the following text is added as a new second full paragraph under "Views from Potrero Hill" to discuss views of the Project Area with Alternative B:

- **From lower elevations of the north end of Potrero Hill, and other areas west of Seventh Street, the elevated I-280 Freeway is a visual boundary of the Project Area. Office and residential development in Alternative B, up to eight stories high, would increase the sense of visual separation between the Project Area and those neighborhoods to the south and west. That effect would vary, depending upon the actual design, height and massing of new structures in Mission Bay.**

The following text is added to the last paragraph on p. VI.I.35 of Volume Two to discuss views of the Project Area with Alternative N:

- **From the lower elevations of the north end of Potrero Hill, and other areas west of Seventh Street, the elevated I-280 Freeway is a visual boundary of the Project Area. Compared with buildings up to eight stories with Alternatives A or B, the four-story buildings near the freeway with Alternative N would increase the visual separation between the Project Area and those neighborhoods to a lesser degree.**

On p. VI.I.54 of Volume Two, Figure VI.I.11 illustrates the scale of development along Owens Street in Alternatives A and B. The upper portions of these buildings would be visible west of I-280 near Potrero Hill.

Mitigation Measure I.5, on pp. VI.I.72-VI.I.73 of Volume Two, addresses design guidelines (e.g., setbacks, building separation) to reduce potential visual impacts of a continuous wall of buildings immediately east of the 30- to 40-foot-high freeway structure.

The Mission Bay Alternatives assume maintenance of the at-grade CalTrain tracks on the east side of Seventh Street in the Project Area, with existing street crossings. Thus, as noted above, the presence of the freeway structure and the tracks would continue the sense of a visual and physical barrier between Mission Bay and the Showplace Square and North Potrero Hill areas. Access from the north and northwest would be improved in Alternatives A and B because of the relocation of the CalTrain terminal to Seventh and Channel Streets. The tracks south

of that new station would be used for commuter train loading, queuing or storage; safety and delay concerns would preclude provision of new at-grade street crossings of the tracks. Potential delays at the 16th Street crossing of the CalTrain tracks (caused by train movements) are discussed in XV.E. Transportation, pp. XV.E.25-XV.E.26 also. Those delays, as noted above, would contribute to the perception of separation between the Project Area and neighborhoods to the west.

Variant 9 (CalTrain Station Location), discussed on pp. VII.51-VII.54 of Volume Two, addresses the scenario of providing an underground CalTrain station at Fourth and King Streets, instead of relocating the terminus to Seventh and Channel Streets. This could enable additional connections between Mission Bay and areas to the west.

In addition, Variant 11 (EIR Hearing Proposal) includes undergrounding the CalTrain tracks north of 16th Street in the Project Area to serve a CalTrain station near Fourth and King Streets. (Variant 11 is described in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.) That would permit a street connection at Hooper Street between Mission Bay and neighborhoods to the west.

Variant 12 (Development Agreement Application) reserves an underground right-of-way for CalTrain tracks should a formal decision by the Peninsula Corridor Study Joint Powers Board determine that the tracks be undergrounded to extend CalTrain to downtown San Francisco. (Variant 12 is described in XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46.) Should such a decision be made, this variant also would provide an opportunity to incorporate additional connector streets to the west.

WIND/SHADOW

Comment

This is a significant page [Vol. Two, p. VI.I.65 (combined Creek Open Space)] for it allows one, at last, in the mind's eye to imagine the combined open space on the two sides of the channel and together, they will create a significant city-wide or at least district-wide open space. And considering that the area is 800-900 feet wide, there is no doubt that there is sufficient space for humans and the other creatures to live in a peaceful, symbiotic relationship. (Toby Levine, Mission Creek Conservancy)

Response

On p. VI.I.65 of Volume Two, cited in the Comment, the EIR describes Alternative B's potential shadow effects on open space north and south of China Basin Channel. This open space area would total about 30 acres of parks and wetlands, and is shown in Figure VI.I.13 on p. VI.I.63 of Volume Two. The Comment is consistent with information in the EIR. (See also XV.D. Community Services and Infrastructure, pp. XV.D.8-XV.D.10.)

Comment

...High rises could waste and destroy the fine climate of the area by making windy canyons and shade areas. (Babette Drefke, Potrero Boosters and Merchants Association)

Response

Pages VI.I.51-VI.I.71 of Volume Two discuss potential wind and shadow effects of the Mission Bay Alternatives. As noted on p. II.70 of Volume One, maximum potential shadow from Mission Bay buildings would not shade open space outside the Project Area, and most of the larger open spaces in Mission Bay would be in sun from 10 a.m. to 3 p.m. throughout the year. The EIR also states on p. II.70 that because "the Alternatives are relatively low- to mid-rise in scale, Mission Bay would have little impact on wind."

Mitigation Measures I.7-I.9, on pp. VI.I.73-VI.I.75 of Volume Two, describe design considerations to limit shadows on open space and reduce pedestrian-level wind speeds. Mitigation Measure M.10, on p. VI.I.75, provides for a qualified wind consultant to review specific designs of buildings 100 feet or more in height for potential wind effects.

STAFF-INITIATED TEXT CHANGES FOR ARCHITECTURAL RESOURCES AND URBAN DESIGN

The following staff-initiated revision is made to Volume Two, VI.I. Architectural Resources and Urban Design, in the Mission Bay Draft EIR.

In note /1/ on p. VI.I.76, the reference mark to note /1/ is deleted from the end of the first sentence.

H. CULTURAL RESOURCES

CULTURAL RESOURCES EVALUATION

Comment

[1.] Pg. 9, last para.: I don't know about miners but sailors were not "flotsam and jetsam." (Averbach's book is about skid row; I'm sure some ex-seamen did end up there.) I've met a lot of those sailors who were going to sea around and after the turn of the century; they invariably have been remarkably well educated (often in European schools), well-spoken men--and guests in my home!

[2.] Pg. 10, 2nd para.: I think what is meant is that the base years for the Sanborn Maps were 1887, 1913 and 1949-50. They were updated with greater frequency than that.

[3.] Pg. 12-13, last, top para.: Ships didn't come into San Francisco Bay to "engage" in the whaling trade. They just put in here in the course of a voyage (many lasted for years). Ships did come in to port for the hide and tallow trade.

[4.] Pg. 13, 2nd para.: San Francisco wasn't exporting much of anything in 1852. This ranking of 6th place must reflect imports only. California didn't have much to export until the grain trade a little later.

[5.] Pg. 30, last para.: In these early years San Francisco did not "build vessels for the transportation of freight and passengers to the East Coast." "Maintained" them, yes; and built craft for bay and river trade. You have to remember that San Francisco and California had nothing to export. One of the reasons Telegraph Hill looks the way it does is that portions of it were used as ballast. It's referred to as "the hill that went around the world."

[6.] Pg. 38, 2nd para.: Shipbuilding and repair took place at Steamboat Point partly because the area was "steep to," that is, without shallow waters and mudflats at low tide. The possibility of buried ship remains is very remote. A working shipyard would haul such remains away.

[7.] Pg. 73, 1st para.: It was the Second Street cut of 1869 that wrecked that neighborhood more than anything.

[8.] Pg. 80, last para.: Can't really compare whale oil and petroleum. Whale oil was used for lamps--this isn't really "energy."

[9.] Pg. 81, 1st para.: California did not import coal from the Eastern U.S. Karl Kortum, Chief Curator, National Maritime Museum: "I've never heard of a coal cargo from the East to San Francisco. Eastern coal went to Honolulu; they had sugar to export, so the trade made sense." Coal came into San Francisco from Australia and around Cape Horn in the grain ships from England and Wales.

[10.] Pg. 108, last 2 para.: The monitoring in this project doesn't seem good enough. You can't just provide "archaeological information" to supervisors and expect it to work. Nor can you let these supervisors decide when they've found "archaeological remains." A qualified archaeologist should be on hand on a daily basis. This paragraph should write in that when maritime artifacts are found, the National Maritime Museum should be contacted for identification and determination of importance. (Jean Kortum, Landmarks Preservation Advisory Board)

Response

The above Comments and referenced pages relate to a report, prepared in December 1987 for Environmental Science Associates, Inc. by David Chavez and Associates, entitled "Cultural Resources Evaluation for the Mission Bay Project, San Francisco, California." This report is part of the supporting documentation for the EIR. The following responds to those Comments, through clarification or changes in the technical report. The changes, however, do not affect the content of the EIR. The changes below are numbered to correspond to the points made by the commenter, e.g., Response 1. corresponds to Comment [1].

1. On p. 9, the phrase "the flotsam and jetsam of humanity that provided labor . . ." in the first sentence of the last paragraph, is revised, as follows:

- Books and articles about the historical development of particular neighborhoods are hard to find; most works have focused on the more elite neighborhoods of San Francisco, such as North Beach, and not

- the South of Market area, which for much of its history was inhabited by the anonymous working class of San Francisco and those who provided labor for the California seafaring and mineral-extraction industries (Averbach:1973).
2. On p. 10, the phrase "(in the case of San Francisco in 1887, 1913 and 1949-50)," in the fifth sentence of the second paragraph, is revised. As amended, this sentence states:
 - It should be noted, however, that the Sanborn Maps were drawn up at irregular intervals (in the case of San Francisco, base maps in 1887, 1913 and 1949-50, along with occasional updates) and that City directories are not always a comprehensive and infallible source.
 3. In the last sentence on p. 11, which continues on p. 12, the phrase "entered the Golden Gate to engage in whaling and the hide and tallow trade" is revised. As amended, this sentence states:
 - The following decade witnessed the emergence of the area's ties to the world economy as ships from New England in particular, as well as from Latin America and Europe entered the Golden Gate in the course of whaling voyages and to engage in the hide and tallow trade.
 4. Gold exports from San Francisco were a major factor in the U.S. economy by the early 1850's. Export totals for three years are \$34.5 million in 1851, \$45.78 million in 1852, and \$54.97 million in 1853.^{1/1}
- There were other exports as well, but gold was the key. In 1852, total U.S. exports were \$155 million, with cotton amounting to \$88 million.^{1/2}
5. On p. 30, the phrase "need to maintain and build vessels for the transportation of freight," in the next-to-last sentence of the last paragraph, is revised. As amended, this sentence states:
 - In addition, the need to maintain vessels for the transportation of gold, freight and passengers to the East Coast further stimulated this enterprise.
 6. The commenter is correct; on p. 38, the next-to-last sentence of the second paragraph states that the possibility of buried ships is remote.
 7. On p. 73, the phrase "nineteenth century caused many," in the last sentence of the first paragraph, is revised. As amended, this sentence states:
 - The spread of industrialization to the South of Market area in the last quarter of the nineteenth century, together with the cutting through of Second Street, caused many of San Francisco's elite to move out of the South Park-Rincon Hill neighborhood and establish mansions on Nob and Telegraph Hills.
 8. In the last sentence on p. 80, which continues on p. 81, the phrase "small and certainly not sufficient to keep up with the State's escalating energy needs, nor was whale oil as versatile a source of energy as petroleum oil" is revised. As amended, this sentence states:
 - However, the amount of oil produced from this source was relatively small and it was used primarily as an industrial lubricant and for oil lamps.
 9. California imported thousands of tons of coal from the eastern U.S. every year during the 1860's, 1870's, and 1880's. Peaks were 70,104 tons in 1867, and 93,637 tons in 1878.^{1/3}
- It is true, however, that Europe and Australia also supplied large amounts of coal to California. On p. 81, the phrase "vast quantities of coal from the East," in the first complete sentence of the partial paragraph at the top of the page, is therefore revised. As amended, this sentence states:
- Until the late years of the nineteenth century, much of California's energy needs had to be met by the costly importation of vast quantities of coal from the eastern United States, England and Australia.
10. The mitigations identified in the report (see also the Mission Bay EIR, Volume Two, VI.J. Cultural Resources, pp. VI.J.22-VI.J.27) conform to the guidelines of San Francisco's Office of Environmental Review. The mitigations include retaining a qualified archaeologist to supervise excavation and testing and on-site monitoring in the identified resources areas. Procedures to be followed in the event of discovery of historic archaeological deposits and artifacts are included in the mitigation measure, which could involve consultation with maritime specialists, if appropriate.

Comment

Vol. II, p. VI.J.25 -- Cultural Resources:
Mitigation, Historic and Archaeologic Resources. An additional mitigation measure should be the provision of an educational facility to inform the public about the historic significance of the project area. Archaeological exhibits could well be incorporated into a wetland interpretive center, since many of the wetland plants and animals were used by the Ohlone people for food, shelter, navigation, etc. In fact, a wetland restoration itself would be an appropriate mitigation measure because the natural environment was an integral part of the Costanoan way of life. (Ruth Gravanis)

Response

Mitigation measures for cultural resources, in Volume Two, VI.J. Cultural Resources, pp. VI.J.22-VI.J.27, include placement of artifacts in an appropriate repository or exhibition of artifacts in a public display (see p. VI.J.24). Should an interpretive center be incorporated into the Mission Bay project, information regarding cultural resources could be included. This, however, is a planning issue and does not affect the analysis in the EIR.

NOTES - Cultural Resources

- /1/ San Francisco Alta, February 1, 1852 and other news clippings in Bancroft Scraps Set W, Volume 12:1,3.
- /2/ U.S. Department of Commerce, Historical Statistics of U.S., 1976:890 and 899.
- /3/ S.G. Brock, U.S. Bureau of Statistics, Treasury Department, Report on the Internal Commerce of United States for the Year 1890, Washington, D.C., Government Printing Office, 1891:254.

STAFF-INITIATED TEXT CHANGES FOR CULTURAL RESOURCES

The following staff-initiated revisions are made to VI.J. Cultural Resources, in Volume Two of the Mission Bay Draft EIR.

Mitigation Measure J.1 is revised to include a new sentence, added to the end of the first paragraph on p. VI.J.24. This sentence states:

- **Archaeological testing could be coordinated with other site investigations for geotechnical and toxic waste purposes.**

The following sentence is added to the end of Mitigation Measure J.4 on p. VI.J.25, and to the end of the first paragraph of Mitigation Measure J.5 on p. VI.J.26:

- **Upon completion, a copy of the report would be provided to the Environmental Review Officer in the San Francisco Department of City Planning and the President of the San Francisco Landmarks Preservation Advisory Board.**



XV. Summary of Comments and Responses

I. Geology and Seismicity

I. GEOLOGY AND SEISMICITY

CONSTRUCTION REQUIREMENTS

General

Comment

The discussion of Building Types on page VI.K.35 does not disclose the uncertainty surrounding some construction techniques and current building code requirements regarding seismic damage. Essentially, many new construction techniques commonly employed in California under existing codes have not yet been 'tested in the field' by an actual major earthquake. The most widely-used such 'untested' technology is 'post tensioning' of concrete construction, which would be the likely approach for many if not most structures in Mission Bay. This is a cause for concern. The question is whether Mission Bay planning should presume that current (or future) generalized building code standards are adequate in view of the documented extreme seismic hazards associated with the poor soils of this site, or whether a higher standard - which may limit unproven construction types such as post-tensioning - should be established for the most dangerous site areas. The DEIR ignores this question in general, and does not distinguish in Table VI.K.3 among (a) post-tensioned concrete slab construction, (b) that using pre-cast structural elements, (c) standard non-tensioned all poured-in-place reinforced concrete, (d) other less common types, such as waffle slabs, etc. All types of concrete structural design are not the same with regard to seismic performance. (John Elberling, San Franciscans for Reasonable Growth)

Response

The seismic performance of concrete buildings varies greatly due to the large variety of structural design applications. However, reinforced concrete structures generally perform better than tilt-up concrete buildings but not as well as structures built of metal or wood frame (as indicated in Table VI.K.3, p. VI.K.36 of Volume Two).

The EIR acknowledges that building codes are limited in scope and are based on historic earthquake building performance. The San Francisco Building Code in effect at the time of publication of the Draft EIR incorporated the 1979 Uniform Building Code (UBC) rather than the 1988 version, which includes provisions on

earthquake safety acquired from study of structural behavior of buildings in the Mexico City earthquake. The San Francisco Board of Supervisors has now adopted the 1990 San Francisco Building Code which includes the seismic provisions of the 1988 UBC (as revised by San Francisco and incorporating amendments made by the state since 1988). The new code became effective January 1, 1990. (State law [California Health and Safety Code, Section 18941.5] mandates use of the UBC currently in State Regulations unless a jurisdiction has adopted an equivalent Building Code by January 1, 1990.)

To be conservative, the EIR analysis was based on the less-restrictive, then-current San Francisco Building Code. Two mitigation measures, K.9 and K.11, designed to address the issue of code deficiencies are included in the EIR. Mitigation Measure K.9, on p. VI.K.50 of Volume Two, suggests that the City of San Francisco adopt the 1988 UBC as soon as legally permissible. Measure K.9 is revised, as follows:

- Alternatives A,B,N - Adopt and enforce, as a minimum, the seismic standards of the 1988 Uniform Building Code (UBC), to reflect recent advances in seismic standards, and thus incorporating them into building design and construction./50/

Since publication of the Draft EIR the City of San Francisco has adopted the building standards of the 1988 UBC (as mandated by State law), incorporating them into the 1990 San Francisco Building Code. Where K.9 is referenced in the Draft EIR or in Volume Four, Summary of Comments and Responses, it is here acknowledged that impacts that would be mitigated by K.9 are now effectively mitigated due to the City's adoption of the 1988 UBC.

Mitigation Measure K.11 (peer review), on pp. VI.K.50-VI.K.51 of Volume Two, is specifically designed to prevent the construction of buildings that may conform to the code but that have design deficiencies that knowledgeable experts versed in state-of-the-art practices would identify. Deficiencies in design are not necessarily associated with any particular construction type mentioned in the Comment.

EQE Engineering provided the following comments regarding the seismic safety of various types of reinforced concrete structures:/1/

Poured-in-place, precast and prestressed concrete structures are fairly common

throughout the world and have experienced major earthquakes in Mexico, Chile, Soviet Armenia, and many other places. They performed poorly in Mexico and Armenia, but performed very well in Chile. The differing performance may be attributed to engineering design and not . . . to the material deficiencies. With proper detailing, such structures can and have performed well in earthquakes. In fact, prestressed concrete elements have greater resistance to cracking than conventional concrete due to the prestressing. Also, designs found in Mexico and Armenia are not allowed by the current code.

Post-tensioned concrete slab construction is an acceptable foundation system for light, low-rise structures such as wood houses. With proper detailing, the slab provides an economical solution (as compared to a deep foundation with piles or a thick mat) to bridge differential settlements of the site soils due to gravity and seismic loads.

The first sentence in the second paragraph under "Mitigation" in the right-hand column on p. II.80 of Volume One is replaced with the following:

- One measure would mitigate groundshaking hazards by adopting and enforcing, as a minimum, the seismic standards of the 1988 Uniform Building Code (which have been incorporated into the 1990 San Francisco Building Code). Five other measures would reduce groundshaking hazards by restricting exterior building materials to less hazardous types, requiring peer review to ensure that state-of-the-art engineering practices are used, securing material and equipment in buildings under construction, requiring a certified quality assurance / quality control program for construction and materials, and requiring bracing or reinforcement of nonstructural building features.

Comment

The Draft EIR is uncertifiable on the basis that it does not include the most rudimentary site analysis by core sample. These samples should be taken throughout the site at irregular grid intervals and more intensively in areas that prove to warrant greater investigation. There is no way of proceeding with any discussion of toxicity, geology, hydrology, or seismicity of the site itself, let alone, thus, further discussion of appropriate land use without the most basic parameters for understanding the Mission Bay site this core sample information contains. (Leigh Kienkrr)

Response

The EIR has made use of all available geotechnical information, soil boring logs and core samples; those data are sufficient for generally characterizing conditions in the Project Area. Figures VI.K.2 and VI.K.3, on p. VI.K.4 and p. VI.K.5, respectively, of Volume Two, show schematic subsurface profiles, and Figure VI.K.4, on p. VI.K.6 of Volume Two, shows the estimated thickness of subsurface Bay Mud. Although these data are not as complete as data provided by sampling at regular grid intervals, they do provide a general picture of the stratigraphy in the Project Area. The general description of soil properties and soil type distribution in the Project Area provides a framework for identifying potential geologic hazards and building constraints. Information presented in the EIR is not, as the Comment states, sufficient for predicting the exact location and extent of future impacts. Mitigation Measure K.1, on p. VI.K.45 of Volume Two, contains provisions for site-specific, detailed engineering soils investigations. Geotechnical reports, which may be required prior to issuance of final subdivision maps or building permits, would identify potential impacts and provide details for the mitigation measures to be incorporated into design of infrastructure, foundations and structures. The range of impacts and possible mitigations is presented in this EIR; as it becomes available, more-detailed information will be presented in subsequent environmental review for each phase of development.

Soil toxicity, testing and mitigation are discussed in XV.L. Hazardous Wastes, pp. XV.L.1-XV.L.25.

Surcharging

Comment

The discussion of Surcharging on page VI.K.21引its results from the test surcharging which is now obviously being conducted at the site by Santa Fe Pacific Realty Co., starting more than one year ago. This would be very pertinent information for the discussion, to assess the validity of its predictions. (John Elberling, San Franciscans for Reasonable Growth)

Response

Surcharging, the placement of fill over the land surface to accelerate settlement and pre-consolidate soil, is accomplished by adding an even veneer of soil over a wide area (see

XV. Summary of Comments and Responses

I. Geology and Seismicity

p. VI.K.21 of Volume Two for a more detailed description). No specific plans for using this technique have been proposed. The soil material mounded near Fourth and Channel Streets is stockpiled for future filling and probably has resulted in some preconsolidation at that location, but is not part of any test surcharge program, so no additional data are available. Surcharging has not yet begun in the Project Area.

Comment

Measure K.5 (page [VI.]K.48) - The discussion on surcharging and vertical drains should be amended as it is unlikely that this method would be "useful, effective and appropriate" over significant areas of the site. (Robert Darragh, Dames and Moore)

Response

The discussion of surcharging and vertical drains is included in the EIR because it is one of the possible techniques that could be implemented to mitigate adverse effects of differential settlement. The effectiveness of this technique remains to be analyzed in site-specific foundation feasibility studies, as described in Mitigation Measure K.1 on p. VI.K.45 of Volume Two. There are other mitigation measures proposed that are alternatives to surcharging. Mitigation Measure K.2 (with its subsidiary Measures K.2a, K.2b and K.2c), on pp. VI.K.45-VI.K.47 of Volume Two, suggests use of pile-supported buildings as one way to entirely avoid surcharging. The use of shallow foundations with leveling jacks, as suggested in Mitigation Measure K.4 on pp. VI.K.47-VI.K.48 of Volume Two, could also be done without surcharging.

For clarity, the first sentence of Mitigation Measure K.5, on p. VI.K.48 of Volume Two, is changed to state:

- **Use surcharging and vertical drains to accelerate settlement if site-specific soils studies indicate need.**

Mudwaves

Comment

Ground Failure (Page [VI.]K.10) - The statement in the DEIR that a large building load applied too quickly could cause a failure of the Bay Mud is technically true but highly unlikely to occur at the Mission Bay site for the following reasons:

At all locations where buildings are planned, a significant thickness of fill has been in place for sufficient time to increase Bay Mud strength and to distribute building loads so that the shear strength of the Bay Mud would not be exceeded causing ground failure. Ground failure at Mission Bay under static loads is not a significant problem. Instead, long term settlement behavior as discussed on page 127 of the DEIR will control building foundation design and performance.

Mud Waves (Page VI.K.10) - The examples cited although correct are not relevant to the current Mission Bay situation since they represent Bay Mud failures which occurred during the initial filling of the Bay. Mud waves also were created during initial filling of portions of the Mission Bay site which primarily account for fill thickness variations. However, new fills or buildings properly designed and constructed will not cause mud waves....

Mud Waves (Page [VI.]K.30) - The statement that heavy loads "could (but would not necessarily) cause mud waves within 200 feet of the southern edge of the Channel," is considered misleading. First, heavy building loads are not contemplated for the Mission Bay Development which could cause mud waves. Secondly, it appears that the 200 foot distance came from a Dames & Moore report quoted by EQE. However, Dames & Moore's concern in the 200 foot zone along the Channel relates to earthquake behavior not to the possibility of mud wave formation by building loads....

Alternative A (Page [VI.]K.31) - The DEIR states, "Housing along the Channel, S/LI/RD south of 15th Street, and LDR built along the waterfront just north of 15th Street (has) the potential to cause mud waves if shallow foundations were used." For the reasons cited previously regarding mud waves, this constraint is not considered valid. Likewise the last sentence on page [VI.]K.31 which refers to mud waves, "if structures overload the carrying [bearing] capacity of the soil" is an unnecessary constraint. (Robert Darragh, Dames and Moore)

Response

The hazards posed by mud waves are discussed on pp. VI.K.10, VI.K.30 and VI.K.31 of Volume Two. Although mud waves can be mitigated by sound engineering design and appropriate construction techniques, it is possible that mud waves could develop in response to waterfront construction. This type of failure has occurred at the seawall in San Francisco and at the Bay

Bridge Toll Plaza. Conditions at the Project Area are conducive to mud wave formation if some construction practices, such as rapid loading, are used, and their impacts should be considered. Mitigation measures, such as the use of pile-supported structures and careful building site selection, as described in Mitigation Measures K.1 and K.2 on pp. VI.K.45-VI.K.47 of Volume Two, would effectively eliminate the risk of mud waves.

The commenter is correct that mud waves do not represent the most significant constraint to building foundation design. Mud wave hazards would be a consideration during the waterfront construction phase of development only. It should be noted that the fill in Mission Bay, although it has been in place for a long time, is not engineered fill.

The commenter is correct regarding the 200-foot zone along the channel. The first sentence under "Mud Waves," on p. VI.K.30 of Volume Two, is changed to state:

- Heavy loads placed on natural or artificial fill materials near the southern edge of the channel or along the bayshore could (but would not necessarily) cause mud to squeeze out along the unsupported face at the water's edge, forming mud waves.

The third and fourth paragraphs on p. VI.K.31 of Volume Two are changed to indicate that mud waves can be avoided by proper engineering. The third paragraph on this page, under the heading "Alternative A," is revised and a new sentence is added, as follows:

- Construction of housing along the Channel, S/LI/RD south of 15th Street, and LDR built along the waterfront just north of 15th Street has the potential to cause mud waves if shallow foundations were used. If buildings were properly designed and constructed, however, building activity would not result in mud wave formation.

The following new sentence is added to the end of the fourth paragraph on this page, which follows the heading "Initial Phase of Development":

- If proper engineering design and appropriate construction techniques are used, however, mud waves should not occur.

The following new sentence is added at the end of the first complete paragraph in the left-hand column on p. II.77 of Volume One:

- However, mud waves could be avoided through proper building design and construction.

Mitigation Measure K.1, on p. VI.K.45 of Volume Two, is changed, as follows:

- Alternatives A,B,N - Conduct a comprehensive boring, sampling, and testing program to determine the engineering properties of the soil as is required by the building permit process. Using the results, establish a detailed description of the rate and amount of settlement which would occur on the site and determine the potential for plastic flow and mud wave development. This would include an evaluation of differential settlement. It would be used as part of the information needed to:

- determine appropriate layout and slope of surface drainage systems, storm drains, and sewers;
- select and design appropriate foundations;
- determine amount of settlement which would occur between each building and its utility connections and sidewalks;
- determine the rate of loading of soil and potential for mud wave development near the shoreline; and
- site emergency facilities and infrastructure (see Mitigations K.17 and K.18).

Groundwater

Comment

Groundwater Levels (Page VI.JK.30) - The discussion concerning construction dewatering creates an incorrect impression of its effects on nearby structure and on limits to use of compensating foundations. None of the buildings now planned for Mission Bay have dewatering problems as potentially severe as those successfully handled in the past on many projects in areas of downtown San Francisco. Appropriate design and construction monitoring of dewatering systems for the shallow basements planned for Mission Bay structures should prevent any significant settlement problems from developing. Also, groundwater levels should not be cited as a limitation of the use of compensating foundation. The minimum / maximum observed water level depth at Mission Bay is 3-1/2 feet, and 9 feet; the average of 10 borings and wells is 6.5 feet (Dames & Moore Report, December 11, 1982). Thus, the shallow basements required for most compensated foundations will generally be above the groundwater table. Further, the statement that,

"there are no areas where groundwater is deep enough for a full basement without dewatering," may be true at some locations but it is applicable only to the planned commercial buildings north of the Channel. As demonstrated by the successful construction of commercial buildings in downtown San Francisco with full basements, this condition is not a significant constraint on development. . . .

Measure K.6 (page [VI.JK.49]) - As previously discussed, to "keep basements above the water table so that dewatering would not be necessary," is unnecessarily conservative considering the extensive, satisfactory experience with basement construction below the water table in large areas of downtown San Francisco where similar soil conditions exist. (Robert Darragh, Dames and Moore)

Response

The commenter is correct regarding the precise nature of groundwater levels at the Project Area. In the first paragraph on p. VI.K.11 of Volume Two, a new sentence is added after the first sentence and the second sentence is revised, as follows:

- **The depth to ground water, as measured from the ground surface in 1982, varied from 3.5 to 9 feet./2/ This is roughly equivalent to mean water level in San Francisco Bay, which is approximately -8.6 feet San Francisco datum./2/**

Shallow foundations in proposed structures would reduce potential impacts resulting from high groundwater levels at the Project Area.

Response

Groundwater levels may limit the usefulness of compensating foundations. It is true that many downtown buildings have below-grade levels, even in areas with relatively high groundwater levels. However, when building foundations or basements exist below groundwater, energy-intensive pumping systems are required to maintain dry basements. Although some buildings in San Francisco require dewatering mitigation, the ideal situation would be to avoid below-groundwater basements where possible, thus eliminating the need for further mitigation.

As indicated in the EIR on p. VI.K.30 of Volume Two, shallow groundwater levels present special engineering considerations. Dewatering and lowering groundwater levels may lead to differential settlement at building sites. However, the implementation of Mitigation Measures K.1 through K.5, on pp. VI.K.45-VI.K.49 of Volume Two, would significantly reduce the impact of differential settlement.

Comment

Groundwater Level (Page VI.K.11) - The statements concerning groundwater level are generally correct. However, they do not represent the variations of groundwater elevations actually measured during the site investigation in 1982. The measured depth to the groundwater table below ground surface in 1982 varied from 3-1/2 ft. to 9 ft. This information should be added to the DEIR to allow the reader to better relate groundwater depths and basement excavations cited in other sections. (Robert Darragh, Dames and Moore)

SEISMIC HAZARDS

General

Comments

Seismic design mitigations are listed in the Draft EIR, such as the use of deep pile foundations for taller structures. However, as stated in the Draft EIR (V.1, p. II.80), by creating high-density housing in this area, Project Alternatives A and B would place more people in a region susceptible to severe strong shaking, and significantly more serious injuries and casualties would result in the event of a major earthquake. The Draft EIR states that even with proposed mitigation measures, deaths would occur in the Project as the result of a major earthquake. Therefore, seismic and geologic impacts will remain significant and unmitigated.

The seismic hazards of the proposed Project site are clearly stated in the Draft EIR. In the interests of public safety, DMG must recommend that the City of San Francisco reconsider the "No Project" alternative. (Dennis O'Bryant, California Division of Mines and Geology)

There should be no hotels. The instability of the ground should eliminate high rises. . . . (Babette Drefke, Potrero Boosters and Merchants Association)

Response

The EIR presents information on the seismic setting and describes potential impacts in the Project Area of alternative development

scenarios, including the No Project Alternative (Alternative N). In addition, a variant included in the EIR proposes development only in areas underlain by relatively stable ground that is not expected to experience ground failure or "violent" groundshaking during an earthquake (see Variant 10 [Reduced Seismic Hazard] on pp. VII.54-VII.56 of Volume Two, Chapter VII. Variations on Alternatives).

The first paragraph of Variant 10 on p. VII.54 of Volume Two is changed as follows to provide added information about the data used in formulating the variant:

- Most of Mission Bay is former bayland or marsh. Some of these areas are subject to liquefaction and "violent" and "very strong" groundshaking in the event of a great earthquake (see VI.K. Geology and Seismicity, pp. VI.K.33-VI.K.37). Anticipated maximum groundshaking intensity at the site was mapped by ABAG (1987) using geologic characteristics and distance from faults./5b/ ABAG's groundshaking estimates at some locations in the Project Area differ slightly from values mapped by Wood in 1908 /5c/ and Blume in 1974 /5d/. The older maps are based on incomplete data from the Project Area for the 1906 event and are less conservative estimates of future groundshaking intensities than the ABAG estimates. For the purposes of this variant, we refer only to ABAG's On Shaky Ground "Maximum Ground Shaking Intensity" map that provides analysis of the worst-case seismic scenario.

The second sentence of the first paragraph on p. VII.54 is revised as follows and is changed to begin a new paragraph:

- A seismically safe variant to the Mission Bay Alternatives would limit development to those areas estimated to undergo only "very strong" groundshaking as shown on ABAG's On Shaky Ground maps./5b/

The following new notes are added after note /5/ on p. VII.57 of Volume Two:

- /5b/ Perkins, Jeanne B., The San Francisco Bay Area — On Shaky Ground, Association of Bay Area Governments, February 1987.
- /5c/ Lawson, Andrew C., et al., The California Earthquake of April 18, 1906: Report of the State Earthquake Investigation Commission, 2v and Atlas, Carnegie Institution, Washington, D.C., 1908.

- /5d/ Blume, John A., San Francisco Seismic Safety Investigation, Geologic Evaluation, URS Associates, June 1974.

On p. II.112 of Volume One, the last sentence of this first paragraph under "10. Reduced Seismic Hazards in All Alternatives," in the right-hand column, is revised, as follows:

- This variant would limit development to those areas mapped by the Association of Bay Area Governments as likely to undergo only "very strong" groundshaking.

The No Project Alternative needs further explanation. Although the No Project Alternative includes little residential use and nighttime population would be very low, the entire Project Area would be developed for industrial and commercial use and would have a substantial daytime population at risk, which is greater than the daytime population for Alternative B. Page VI.K.43 of Volume Two addresses potential casualty estimates of Alternative N.

The EIR Setting sections present information about existing (status quo) seismic conditions that serves as a basis for evaluating the EIR Alternatives.

With this spectrum of land use development scenarios in the EIR, ranging from a "No Change/No Project Scenario" to one that would have a substantial daytime and nighttime population, the decision-makers will have a full array of programs before them for their consideration.

Comment

Properly planned, Mission Bay can become a model for major responsible urban development in a very geologically hazardous location, so typical of California, in contrast with impending major disasters at ill-planned or unplanned urban developments such as Daly City and Foster City. (John Elberling, San Franciscans for Reasonable Growth)

Response

Mission Bay does have the potential to become a model for responsible urban development in a geologically hazardous location. The mitigation measures on pp. VI.K.45-VI.K.56 of Volume Two were written to accomplish this goal. These mitigation measures address groundshaking and liquefaction hazards; construction measures that

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I. Geology and Seismicity

incorporate additional safety measures in buildings; emergency response and facilities planning; and infrastructure installations that better withstand earthquake shaking. All of these measures will be considered for adoption by project decision-makers in their deliberations on the Mission Bay Plan and development agreement.

Comment

We are equally concerned about the earthquake preparedness of the area. Some people are referring to the area as so much jelly. Is that true or not? We don't know. We are worried. Can construction be done there? The Environmental Impact Report rather indicates, no, we should all go away. (Arden Smith, Potrero Boosters and Merchants Association)

Response

As discussed extensively in the EIR, the Mission Bay area is in a zone of high groundshaking and liquefaction potential. Some fill material, found locally at the site, may be less prone to ground failure than other fill. However, earthquake-resistant foundation design and other mitigation measures, listed in the EIR, are available to reduce hazards and promote safety in buildings constructed on Bay Mud deposits. The EIR contains six mitigation measures that would reduce groundshaking hazards by enforcing 1988 UBC Standards, restricting exterior building materials to less hazardous types, requiring peer review to ensure that state-of-the-art engineering practices are used, securing material and equipment in buildings under construction, requiring a certified quality assurance / quality control program for construction and materials, and requiring bracing or reinforcement of nonstructural building features. One measure would compact sandy soil to reduce potential hazards from liquefaction and lateral spreading, another would require automatic shut-off devices on natural gas pipelines. Five measures would improve emergency response by requiring an emergency response plan for Mission Bay, specifying siting and design features for emergency facilities, requiring a mass care facility at Mission Bay, installing cisterns and suction hydrants to use Bay water to increase fire-fighting capabilities, and storing heavy equipment at the Project Area to provide transport, open access and clear debris after a major earthquake. One measure specifies methods to prevent infrastructure failure during a major earthquake. The final mitigation measure concerns seismic safety and hazardous materials. (See Volume Two, pp. VI.K.45-VI.K.56, for the

text of the mitigation measures.) All of these measures will be considered for adoption by project decision-makers in their deliberations on the Mission Bay Plan and development agreement. Measures not included in the project must be rejected, with reasons given for the rejection.

In addition, a variant included in the EIR analyzes development only in areas underlain by relatively stable ground that is not expected to experience ground failure or "violent" groundshaking during an earthquake (see Variant 10 [Reduced Seismic Hazard] on pp. VII.54-VII.56 of Volume Two).

The Comments and Responses below provide more detailed information about groundshaking and ground failure issues in the Project Area. Descriptions of the physical properties of soil materials and their distribution at Mission Bay, along with references to geotechnical reports, are provided in the EIR.

Comment

The issues of toxic wastes and earthquake susceptibility are raised by the EIR but not answered. We are forced to ask, can the project be built at all? (Arden Smith, Potrero Boosters and Merchants Association)

Response

As indicated in the EIR, hazardous materials use and storage are major considerations in earthquake safety. Mitigation Measure K.24, on pp. VI.K.55-VI.K.56 of Volume Two, would provide periodic inspection of buildings to ensure that City requirements for safety of storage and handling of hazardous substances are enforced. Measure K.24 is revised, as follows:

- **Alternatives A,B,N - The following pertains to the use of hazardous materials at Mission Bay:/55/**
 - Conduct periodic inspections of non-structural features of buildings in which hazardous materials are located. Non-structural hazard mitigation in this special case should include proper maintenance and contingencies for power loss. It could also include, if appropriate, seismic restraints, special pipe connections, safety shutoffs, special gas storage tanks, and secondary containment. **This measure would be in addition to existing City requirements regarding permitting procedures for the storage and**

handling of toxic materials and underground storage tanks (Ordinance #443-86, Health Code Part II, Chapter V, Article 21 San Francisco Municipal Code); and maintenance by the San Francisco Fire Department of an inventory of hazardous materials, as required by state law AB 2185.

New buildings, if constructed as recommended in Mitigation Measures K.9, K.10 and K.11, on pp. VI.K.50-VI.K.51 of Volume Two, would be structurally sound.

VI.N. Hazardous Wastes, in Volume Two, contains a detailed discussion of the regulatory framework at the federal, state and local level designed to insure cleanup of any existing wastes in the Project Area and protect public safety. Those regulations are constantly being refined to address a broad range of concerns including earthquake-related hazards.

Groundshaking and Ground Failure

Comment

Groundshaking (Page [VI.JK.14]) - The second quote from the Carnegie Commission report citing an Intensity Grade C (very strong) for the area south of the Channel requires amplification to understand its significance. It should also be stated that a portion of the Mission Bay Project from 3rd to 5th Street north of the Channel had an intensity B (violent). (See the attached Plate 5 from the Dames & Moore report of July 9, 1982 for the extent of these intensity areas). The Commission report also provides additional information concerning earthquake behavior at Mission Bay that was not cited in the DEIR. Especially relevant are the descriptions of Intensity Grade B and C quoted on page 15 and 16 of the Dames & Moore July 9, 1982 report. It is important to note that Intensity C descriptions do not include any reference to ground failure found in the Grade A and B descriptions. It is considered to be very significant that only a portion of the Mission Bay Project south of the Channel is known to have had ground failure in 1906. Thus, it is incorrect to associate more severe ground shaking effects to the majority of the Project Area than the evidence or reasonable extrapolation would support.

Ground Failure ([Pages VI.JK-14 and VI.JK-15]) - The opening statement that, "Except for the northern and southwest corners, the Project Area has potential hazards of subsidence liquefaction and lateral spreading," is overstated by the second sentence "The Project Area is

particularly susceptible to liquefaction because abundant sand lenses and layers are located below the shallow water table." The susceptibility of Mission Bay soils to adverse seismic ground failures can best be judged by the recorded evidence of the 1906 earthquake as interpreted by investigation and research performed in the last 25 years. This experience is summarized well in a 1978 USGS publication by T.L. Youd and S.N. Hoose, Historic Ground Failures in Northern California Associated with Earthquakes, Geologic Survey Professional Paper, 993. Youd and Hoose identified three areas in the Mission Bay project boundaries where ground failures occurred during 1906.

- 1) In a two block area from 4th to 6th Street along Townsend, where 2 feet of initial settlement was recorded.
- 2) At the 3rd Street Bridge Crossing of the Channel where a settlement of 4 inches was recorded at the east corner of the south abutment location 204.
- 3) Lateral spreading at the north abutment of the 3rd Street Bridge.

In summary, the 1906 record revealed only limited ground failure in the Mission Bay Project Area, much less than in other reclaimed baylands in San Francisco. Although the lack of building construction in the Mission Bay Project Area, especially south of the Channel, limited the amount of detailed study in the area, it is unlikely that significant ground failure effects would have gone unnoticed....

Ground Failure (Page [VI.JK.35]) - The EQE Seismic Safety Report of September 86, Reference 40 is cited regarding the likelihood of liquefaction induced settlement and lateral spreading throughout the Project Area except for the Northeast corner. However, the only supporting evidence in the EQE report known to Dames & Moore is that associated with the likely liquefaction that induced 2 feet of settlement along Townsend Street from 4th to 6th Street. The condition is associated with the liquefaction-susceptible dune sands which were used for fills north of the Channel as they were for almost all of downtown reclaimed marsh areas of San Francisco. However, dune sands were unavailable for fill placed south of the Channel and this area was filled with non-liquefiable materials comprised of sand, clay and rock mixtures. (Reference Hoyland and Daragh, 1981). Although there may not have been extensive investigation south of the Channel in 1906, it is highly unlikely that liquefaction failures would have gone unnoticed. Thus, the

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probability of liquefaction developing south of the Channel is considered to be sufficiently remote that it should not be considered to be a constraint to building construction. (Robert Darragh, Dames and Moore)

Response

Ground failure is defined by Youd (1978) /2/ as a permanent ground movement. In this discussion, only those ground failures triggered by seismic shaking are considered, including various types of landslides, lateral spreads, ground settlement, and ground cracks. Many of these failures are commonly caused by liquefaction ("the transformation of a granular material from a solid state to a liquefied state as a consequence of increased pore-water pressure"/2/). Ground failures are categorized as hillside landslides, valley floor failures such as lateral spreading and ground settlement, miscellaneous ground cracks, and other related phenomena, such as sand boils.

The damaging effects of strong groundshaking and ground failure can vary over small distances depending on the nature of subsurface materials. Although several boring samples have been analyzed in the Project Area, not enough subsurface data are available to identify all potentially hazardous areas. Records of ground failure during the 1906 earthquake give some indication of areas of particularly high liquefaction potential in portions of the Project Area. Ground failure hazards in other areas not yet filled by 1906 are more difficult to determine.

According to Wood's 1908 map, contained in the Carnegie Institute report /3/, unequivocal evidence of intensity B shaking (Modified Mercalli intensity ranging from VIII to XI) was observed in the Mission Bay Project Area north of the China Basin Channel between Third and Fifth Streets. The remainder of the Project Area is mapped as intensity C (Mercalli intensity VII to VIII). It is important to note that while San Francisco intensity grade C does not explicitly include descriptions of ground failure, Association of Bay Area Governments (ABAG) conversions (in Building Stock and Earthquake Losses /4/) from the San Francisco intensity scale to the Modified Mercalli scale indicated that some types of ground failure that are known to occur at Mercalli intensity VIII may also be associated with grade C groundshaking.

During the 1906 earthquake, at least 50% of the Project Area located south of China Basin Channel was underwater. Therefore, no accounts

of groundshaking intensity or possible ground failure from the 1906 earthquake are available for a significant portion of the Project Area. Areas classified as intensity C south of China Basin Channel are based on uncertain data, as indicated in the legend of Wood's map /3/. Lack of groundshaking data from the 1906 earthquake may have resulted from one of two factors: 1) post-earthquake investigation efforts focused on building structural failure and fault rupture, and many ground failures not critical to constructed work may have been neglected, and 2) the incidences of ground failure were so numerous in more populated areas north of Mission Bay during the 1906 shock that noting of occurrences south of China Basin Channel may not have been exhaustive./2/

Estimates of future groundshaking intensity and ground failure potential are often based on evidence from the 1906 earthquake. A groundshaking intensity map by Blume (1974) /3/ is in close agreement with Wood's 1908 map /5/. ABAG's On Shaky Ground /6/ shows much of the area as maximum groundshaking intensity grade B (except the northernmost portion of the Project Area and a small area in the southwest corner). In addition, the California Division of Mines and Geology (CDMG), in its Earthquake Planning Scenario for a Magnitude 8.3 Earthquake on the San Andreas Fault in the San Francisco Bay Area /7/, indicate that the entire Project Area (except for the northern corner of the Project Area) is located in a zone of high failure potential. In the first paragraph under "Ground Failure," beginning on p. VI.K.14 of Volume Two and continuing on p. VI.K.15, the first two sentences are revised, and a new sentence and references to reports by ABAG, the Carnegie Institution, and CDMG are added, as follows:

- Except for the northern corner of the Project Area near Third and Townsend Streets and a small area in the southwest corner where bedrock is near the surface, the Project Area has potential hazards of subsidence, liquefaction and lateral spreading./19/ Portions of the Project Area are particularly susceptible to liquefaction because they experienced ground failure in the 1906 earthquake./21/ The Project Area, as a whole, has a high potential for ground failure because of local geology (sand lenses and layers prevalent in Bay and alluvial [river] deposits, and artificial fill) and the presence of shallow groundwater./23a/

The first full sentence in the partial paragraph at the top of p. VI.K.15 is changed to start a new paragraph.

The following new note, /23a/, is added after note /23/ on p. VI.K.59 of Volume Two:

- /23a/ Davis, James F., John H. Bennett, Glenn A. Borchardt, et al., Earthquake Planning Scenario for a Magnitude 8.3 Earthquake on the San Andreas Fault in the San Francisco Bay Area, California Department of Conservation, Division of Mines and Geology, Special Publication 61, 1982.

For clarification, the first full paragraph on p. VI.K.35 of Volume Two is revised to state:

- Liquefaction, including possible lurching and lateral spreading resulting from liquefaction, and rapid settlement are the types of seismically induced soil failure likely to occur in the Project Area./40/ The area between Third and Fifth Streets, north of China Basin Channel, would be at greatest risk from liquefaction. This area contained unequivocal evidence of ground failure following the great 1906 earthquake./21/ The likely impacts of strong groundshaking in other parts of the Project Area, particularly south of the channel, are less well documented. However, preliminary tests suggest that much of this fill material is less susceptible to liquefaction than that north of the channel./40a/ While no ground failure features were reported in this area after the 1906 event, much of the area was underwater at the time and few people occupied the area. Minor ground failure may have gone unreported in this area.

The following new note, /40a/, is added after note /40/ on p. VI.K.60 of Volume Two:

- /40a/ Hovland, H.J. and Darragh, R.D. Earthquake-Induced Ground Movements in the Mission Bay Area of San Francisco in 1906. ASCE, 1981.

On p. II.79 of Volume One, the first sentence of the second paragraph under "Secondary Earthquake Hazards" is revised to state:

- Except for the northern corner of Mission Bay, where bedrock is near the surface, liquefaction and settlement could occur locally throughout the Project Area.

Comment

Groundshaking (Pages VI.K.13 and VI.K.14) - The statement, "Observations of damage recorded by the State Commission

described damage to part of the Project Area north and west of China Basin," should be modified or deleted since the quoted data do not apply to the Mission Bay Project, but rather to the "former course of Mission Creek" which extends beyond the project boundaries west of Berry Street to about 18th and Valencia Streets in the Mission District. Much more adverse ground failure developed in the Mission Creek area than in Mission Bay in 1906. It is in the Mission Creek area that the slumping movements occurred which were cited on page 14 of [the] DEIR, "where the street lines were shifted eastward out of their former courses, by amounts varying from 3 to 6 feet." No observations were made following the 1906 earthquake of such movements within the Project Area. (For further information concerning the ground motion effects of the 1906 earthquake in the Mission Bay area see the attached 1981 ASCE paper by Hovland and Darragh.) (Robert Darragh, Dames and Moore)

Response

While ground failure in 1906 was noted in the Project Area, observed failures were confined to areas north of China Basin Channel./3/ The commenter is correct that areas along the former course of Mission Creek are not within, but adjacent to, the Project Area. The last paragraph on p. VI.K.13 of Volume Two is revised, as follows:

- Observations of damage recorded by the State Commission describe damage along the former course of Mission Creek, which flowed into the Project Area at the western end of China Basin Channel./21/

Under "1906 Earthquake," at the bottom of p. II.78 of Volume One, the first sentence in the boxed text is deleted and replaced with the following:

- The State Commission that investigated the 1906 earthquake reported that the area along the former course of Mission Creek, which flowed into the Project Area near the western end of China Basin Channel, was one of two areas in the City most damaged by the quake.

Comment

Seismic Hazards (Page VI.K.13) - The statement in the second paragraph, "Miscellaneous uncompacted fill materials such as sand and rubble, likely to be found in parts of the Project Area, are expected to perform poorly," does not

properly reflect the likely groundshaking behavior on the fills. Not all uncompacted fills which contain sand and rubble will have poor seismic behaviors causing settlement or stability problems for structures. The major, fill-related seismic problem is limited to loose sandy soils below the water table which could liquefy during strong ground shaking. These fills are only known to exist north of the Channel in the Project Area. Other fills including mixtures of sand and rubble, even when uncompacted, should perform satisfactorily during an earthquake if their characteristics are considered properly in design. Even for liquefiable loose sand fills the impact of liquefaction on pile supported buildings is likely to be minimal as was demonstrated in the 1906 earthquake. (Robert Darragh, Dames and Moore)

Response

The statement concerning poor performance of miscellaneous uncompacted fill materials relates to their groundshaking behavior and not necessarily to their liquefaction potential. The phenomenon of seismic wave amplification in unconsolidated materials of all types and grain sizes is well documented. While loose sandy soil below the water table has the highest liquefaction potential, other fills including mixtures of sand and rubble can contribute to seismic wave amplification and thus to stronger groundshaking in the Project Area than in nearby bedrock, regardless of ground failure potential. Soil properties in the Project Area, while not as unstable as loose sand, would not be expected to perform well during strong groundshaking. As described in Table VI.K.2, on pp. VI.K.28-VI.K.29 of Volume Two, buildings supported on pile foundations would be the least likely to sustain major structural damage in an earthquake.

Comment

Groundshaking (Page [VI.]K.33) - The inference that the adverse behavior of Mexico City buildings 5 to 15 stories in height poses similar problems for buildings at Mission Bay is unsupported. Although the seismic response of deep Bay mud deposits is of sufficient concern that the recently adopted 1988 Uniform Building Code provides for special consideration at sites with soft clay greater than 40 feet in thickness, further investigation will be required to determine whether more severe provisions for building design will be required than [those in] prior codes. There are major differences between engineering and geophysical properties of Bay Mud in Mission Bay and the weaker

Mexico City soils and it has not been established that Mexico City type soil/structural resonance will occur at Mission Bay. . . .

Measure K.9 (page [VI.]K.50) - The second subparagraph implies that UBC 1988 does not adequately cover, "soils, like thick Bay Mud, which amplify and prolong seismic groundshaking beyond that considered in current UBC soil factor requirements." This is no longer correct since UBC '88 has introduced a new soil profile (type S₄) for soft clays greater than 40 feet in thickness; for this soil condition a soil coefficient of 2.0 is required, whereas the highest previous soil coefficient was 1.5. Thus, it is not necessary to employ more stringent requirements for these soil conditions than UBC '88 would require." (Robert Darragh, Dames and Moore)

Response

Recently available data provide evidence to support the idea of seismic wave amplification in areas underlain by saturated clay.^{/8/} Authors of the Seismic Safety Commission Report indicated in an oral presentation to the Commission that although there are differences between the type of clay in Mexico City and that in San Francisco, the differences, in terms of seismic wave amplification, are minor.^{/9/} Mid-rise buildings would be most susceptible to damage from low frequency (long wave) seismic waves. Detailed, structure-specific, spectral response analysis would be required to minimize building damage in the event of an earthquake.

The data indicate that spectral response analysis using newly adopted special design requirements for sites with soft clay greater than 40 feet thick would slightly reduce structural damage to buildings on Bay Muds in San Francisco during a major (Richter magnitude greater than 8) earthquake. Those design requirements are included in the 1988 edition of the UBC, which was adopted by the City of San Francisco in January 1990. However, even with incorporation of provisions of the 1988 UBC, unforeseen earthquake effects could result in structural damage to buildings and loss of life and property. As a result of the potential for human casualty, the EIR includes a finding of unavoidable significant impact for seismicity (see p. X.1 of Volume Two, Chapter X. Significant Irreversible Environmental Changes Which Would Be Involved in the Proposed Action Should It Be Implemented) /10/.

Mitigation Measure K.9, on p. VI.K.50 of Volume Two, which suggests that San Francisco adopt the 1988 UBC, would include the most

recently codified standards regarding seismic resistance in Bay Muds. As required by the California Health and Safety Code (Section 18941.5), the City of San Francisco adopted the seismic standards of the 1988 UBC. The commenter is correct that the 1988 UBC includes more sophisticated analysis of complex building shapes and a new "soil factor" for soft clays greater than 40 feet in thickness. Mitigation Measure K.9 has been revised; see the Response on p. XV.I.1.

Mitigation Measure K.11, on pp. VI.K.50-VI.K.51 of Volume Two, also includes spectral-response analysis. A final sentence is added to the last paragraph of K.11, on p. VI.K.51, to clarify the need:

- **Require the use of spectral response analysis to determine the behavior of specific mid-rise structures sited on thick, soft clay sediments, in response to low-frequency seismic waves.**

Comment

Damage To Infrastructure (Page [VI.JK.35 [to] [VI.JK.37]) - The statement, "Roads and underground utilities north of the channel and west of Fourth Street are likely to experience general severe damage resulting from extensive liquefaction," is considered to be an accurate statement. However, the statements, "Liquefaction damage also could be locally severe south of the Channel and lurching could damage roads and utilities near the waterfront and the Channel," and "Third Street would likely be impassable at the Channel because of settlement of up to 2 feet at the bridge approaches," are unsupported by facts or reasonable speculation.

Lastly, there is inadequate information to imply a problem exists that, "If sufficient debris to close 16th Street were to fall from I-280 then Third Street from the south could provide the only access to the portion of Mission Bay south of the Channel." The summary statement in the EQE Report of September 1986, page 7 is considered more than adequately conservative: "It is very likely that the elevated highways will suffer considerable damage; however, it is unlikely that general collapse will occur. The elevated highways themselves may not be passable but this will not block access to and egress from the Mission Bay site."

The presumption that streets under I-280 would be closed during a major earthquake does not seem to be realistic considering the seismic retrofitting of the I-280 freeway by Caltrans and

the improved behavior of such retrofitted structures in the 1986 Palm Springs and the 1987 Whittier earthquakes. (Robert Darragh, Dames and Moore)

Response

As stated on p. VI.K.35 and p. VI.K.36 of Volume Two, liquefaction and ground failure hazards are a particular concern near the channel and along the waterfront. The area is within CDMG's high ground failure potential zone, and any suggestion of ground failure is reasonable speculation. Ground failure at the Third Street Bridge is even more likely given the effects of the 1906 earthquake, which are described in the EIR on pp. VI.K.13-VI.K.14 of Volume Two, and in the first Response under "Groundshaking and Ground Failure" on pp. XV.I.9-XV.I.10.

Damage from past earthquakes has demonstrated that debris is frequently shed from freeway overpass structures. During the 1971 San Fernando earthquake, 25% of all highway bridges sustained severe damage or totally collapsed and 50% were moderately damaged.^{/11/} Given these statistics, it is likely that debris would fall from I-280 in the Project Area. Streets below the highway could be blocked.

The commenter is correct that EQE's report states that elevated highways would suffer considerable damage but would not block access to and egress from Mission Bay. The following replaces the last two sentences in the first full paragraph on p. VI.K.37 of Volume Two:

- **It is very likely that elevated highways would suffer considerable damage; however, it is unlikely that general collapse would occur. The elevated highways may not be passable following a large earthquake, but this should not block access to and egress from Mission Bay.^{/40/}**

In the last sentence of the last paragraph in the right-hand column on p. II.79 of Volume One, which continues in the left-hand column at the top of p. II.80, "and Sixteenth Street could be blocked by debris from the elevated I-280 freeway" is deleted from the end of the sentence. The sentence thus states:

- **The Third, Fourth, and proposed Owens Street bridges would be temporarily impassable.**

The 1981 retrofit of I-280 was designed to prevent the structure's total collapse from earthquake damage. Reports of the Palm Springs

earthquake indicate that Whitewater overpass on Interstate 10 suffered extensive damage to the retrofit system.^{11/} The earthquake that caused this damage, however, measured only 5.9 on the Richter scale. A future earthquake of magnitude 7 to 8 in the Bay Area (an earthquake of much higher energy and longer duration) would result in more severe damage. Elevated highway structures used in California have not performed well in earthquakes of magnitude 6.5 or greater.^{12/} Retrofit systems, initiated after the San Fernando earthquake, have not been tested in a large magnitude earthquake, the type predicted for the San Francisco region.

Tsunami and Seiche

Comments

Tsunamii and Seiches (Page VI.JK.15) - The second paragraph states "Predictions of tsunami runup from San Francisco Bay Area are given in several publications but there remains considerable uncertainty over the extent of Tsunami runup which would occur in the Project Area.^{12/25/26.}" Nevertheless, the latest and most extensive reference (25) is considered to be authoritative and should be cited for completeness. The following quote from Dames & Moore's report [Hovland, H.H. and R.D. Darragh, "Earthquake Induced Ground Movement in the Mission Bay Area of San Francisco in 1906," Proceedings 2nd Specialty Conf. Technical Council on Lifeline Earthquake Engineering, ASCE 1981] summarizes the expected tsunami effects in Mission Bay from this reference.

"A tsunami is a long period ocean wave which can be generated by earthquakes, submarine landslides, or volcanoes. Upon reaching shallow coastal waters, these waves may increase in height to tens of feet causing coastal flooding and associated damage. The anticipated tsunami runup along San Francisco Bay shoreline in the vicinity of the site is -4 (SF Datum) for a 100-year recurrence interval and -1 foot (SF Datum) for a 500-year recurrence interval."

(Robert Darragh, Dames and Moore)

The discussion of "seiche" on page VI.K.15 makes an unwarranted conclusion that a destructive seiche in San Francisco Bay is not expected due to a major earthquake, given that none occurred in 1906. The 1906 San Andreas quake lay to the west of the Bay, with northwest lateral displacement of the westward land block; the eastward landblock under the Bay did not

move significantly, and seismic energy radiated from west to east so that the Mission Bay site was 'upward' of any seiche or other wave front in the Bay. A future major Hayward Fault earthquake (such as the 1836 quake) would lie to the east of the Bay, and the landblock beneath the Bay would likely be laterally displaced to the northwest, potentially generating major input of energy into the Bay waters as well as some possible water displacement, and producing a large seiche. If vertical landblock displacement occurred as well, even a "local tsunami" might be generated in the Bay. The seismic energy would propagate from the fault towards the Mission Bay site, which would then lie 'downward' of the wave front. Thus there may be very serious peril, not just along the Bay frontage but perhaps even more pronounced along Mission Creek due to a 'funneling' effect which might produce a "bore" several feet higher than the seiche surge itself as displaced Bay water enters the narrowing (in depth as well as width) mouth of Mission Creek.

Detailed and careful technical analysis of seiche dynamics at the Mission Bay site during a potential Hayward Fault event in the Oakland Hills is very, very important for an adequate EIR. . . .

In the discussion of Seismic Hazards on page VI.K.44, possible worst case seiche impacts are not addressed due to the faulty Setting discussion. . . . If a major Hayward Fault earthquake does pose a hazard, an estimated run-up, especially along Mission Creek, could be a significant public danger. Houseboats of less stable design might capsize, drowning trapped occupants. If a potentially large seiche is possible, the EIR needs a map delineating the possible flooded areas. This must be considered in conjunction with possibly higher sea levels of the future. . . .

. . . [R]eview of the South of Market Rezoning DEIR provided additional information. That DEIR's analysis of potential earthquake inundation impacts from tsunamii or seiche is much superior to the Mission Bay DEIR's, and is incorporated here by this reference. The map therein, Figure 12 . . . [of the South of Market Draft EIR], in particular is exactly what is needed for the Mission Bay area as well. Obviously Mission Creek is the projected source of . . . the possible depicted inundation area in the South of Market.

Two EIR's being prepared and certified almost simultaneously cannot differ so markedly in hazard analysis of such a major impact issue, seismic safety - one for which a finding of significant impact will be made - without one or

the other being legally inadequate. The Mission Bay project may be able to mitigate the inundation hazard for the South of Market as well as Mission Bay. (John Elberling, San Franciscans for Reasonable Growth)

Response

A tsunami is a long-period ocean wave that is generated by submarine earthquakes, volcanoes or landslides. Upon reaching shallow coastal waters, these waves may increase in height to tens of feet, causing coastal flooding and associated damage. A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin. It is caused chiefly by local changes in atmospheric pressure, aided by winds, tidal currents, and occasionally by earthquakes. Although tsunamis and seiches may produce damage and flooding effects, tsunamis are generally much more damaging. Both may be associated with earthquakes, but they occur in rather different situations.

Tsunamis are generated when the surface of the ocean is offset because of an ocean floor offset or disturbance. This causes a bulge in the water surface and the initiation of a long-period wave. Such waves travel throughout large ocean basins, causing damage in selected coastal regions. Study of historic tsunamis has shown that wave travel times can be predicted and early warnings issued. History has also shown that certain locations are more susceptible to tsunami damage. For example, regardless of the origin of an offshore disturbance (usually an earthquake), Crescent City, in northernmost California, is the hardest hit area of the West Coast. A major factor determining the location of damaging tsunamis is offshore topography (bathymetry) and coastline configuration.

Coastal California is vulnerable to seismic sea waves generated by earthquakes anywhere in the Pacific Basin, including large earthquakes that commonly occur in Japan and Alaska. The opportunity for tsunami damage to occur in the San Francisco Bay does not depend only on the occurrence of a local earthquake, nor does the absence of a tsunami during the 1906 earthquake represent the only data available. The largest tsunami ever recorded, that generated by the Alaska earthquake of 1964, was measured at the Golden Gate and died out quickly as it entered the Bay, causing some damage along the Bay in Marin County.^{/13, 14/} Future tsunami are expected to behave similarly when they reach the Golden Gate. The Project Area has been free of tsunami effects for at least a century, and all data

suggest that physical properties of the coast and Bay protect the area from such damage.

The nature of faulting along the San Andreas fault system also reduces the likelihood of tsunami impacts during local earthquakes. Tsunamis are associated with earthquakes that occur on faults with major vertical offset, which occurs along reverse faults or normal dip-slip faults. The faults with the largest amount of vertical offset are along subduction plate boundaries, the setting for the strong earthquake and damaging tsunami generated in Alaska in 1964. The San Andreas fault is predominately a strike-slip fault, which means that displacement is wholly or largely horizontal (depending on location). Minor vertical offset was measured along the fault in 1906, but nowhere did it exceed two feet.^{/3/} Throughout the San Andreas system (including the Hayward fault), cumulative vertical offset is estimated to be no greater than 10% of total offset.^{/3/} In addition, only local fault rupture that occurs offshore (i.e., the San Andreas and San Gregorio faults north of Daly City) is capable of generating a seismic sea wave. Earthquakes on the Hayward or Calaveras faults, which are on land, would not generate tsunamis.

Although a remote chance remains that the San Francisco Bay could be affected by future tsunami, lack of any historic data and considerable disagreement in published estimates of tsunami run-up indicate that all available estimates are highly speculative. The Seismic Investigation and Hazard Survey Advisory Committee (SIHSAC) has stated that existing maps that show tsunami run-up "give too precise a representation on too uncertain a parameter."^{/15/} Potential tsunami impacts and estimates of total run-up for the 100-year and the 500-year tsunami are given on p. VI.K.44 of Volume Two, and are in close agreement with several published estimates (see notes /22/, on p. VI.K.58 of Volume Two, and /25/ and /26/, on p. VI.K.59). It is noteworthy that all 100-year tsunami run-up estimates are less than the projected elevations for the 100-year high tide. Any unanticipated damage would be minor compared to other damage that would certainly be caused by a major earthquake centered near San Francisco.

A seiche is an oscillation of a body of water usually caused by changes in atmospheric conditions. Wave periods range from a few minutes to several hours and in height from several centimeters to a few meters.^{/16/} Occasionally, seiches are caused by earthquakes. This usually affects bodies of water a great distance from the earthquake epicenter. The precise way that earthquakes generate seiches is

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complex and not easily predicted. The phenomenon is generally thought to be associated with surface wave harmonics (groundshaking) and not directly with fault offset. Although earthquake location may affect the initiation of a seiche, once established the original location of the epicenter would not greatly influence wave height or amount of damage.

Seiches are not caused directly by fault offset. Fault rupture may cause tsunamis but only when offset is beneath water. Although seiches are more commonly caused by tidal and atmospheric conditions (few have been recorded in the Bay), the 1906 earthquake did cause abnormal variations in tide recordings at the Golden Gate that probably represent a small seiche. This event is described on p. VI.K.15 of Volume Two. Records indicate that no seiche occurred during the 1868 Hayward earthquake (magnitude 7 on the Richter scale).^{13/}

Historic data indicate that seiches that develop in the Bay have low wave heights and are essentially undetectable when superimposed on daily tidal fluctuation. Low-lying areas along the Bay that are protected from mean high tide are likely to be unaffected by minor fluctuations of the Bay surface. Seiche run-up would be less than the 100-year tsunami estimates found on p. VI.K.44 of Volume Two.

Effects in inlets and creeks adjacent to the Bay would be similar to those in the Bay itself. Oscillating water would slosh about, but water would not build up into a bore. A bore, or tidal bore, is a wall-like wave of water, with an abrupt front, produced as an incoming tide rushes up a shallow, narrowing estuary or bay. Seiche wave lengths are usually shorter and wave heights smaller than tsunamis and daily tide "waves." Wave fronts are gentle and are not followed by a wall of water, typical of tidal bores.

The risk of tsunami and seiche damage in the San Francisco Bay is generally considered to be low.^{14/} Given this low risk and the relative minor nature of possible damage compared to the damage due to groundshaking and ground failure during a major earthquake, earthquake-induced water damage at the Project Area is considered minor.

There are no text revisions required for the Mission Bay EIR on tsunami and seiche impacts. However, revisions are incorporated into the South of Market EIR to reflect tsunami run-up information based on actual occurrences rather than the mathematical estimates described in Figure 12 of the South of Market EIR. As such, information in the two EIRs is consistent.

Comment

No mitigation measure is proposed for seiche impacts due to the defective analysis of the Setting section - see above. Open space design should include raised berms or other landscape features of equivalent value to contain estimated flooding. The Mission Creek channel appears the most vulnerable, and water volume computation for containment there may be complex due to the 'water bore' effect noted above. Possible future increases in sea level are an additional planning factor. (John Elberling, San Franciscans for Reasonable Growth)

Response

Comments concerning seiche impacts are noted. (See the previous Response, pp. XV.I.14-XV.I.15).

The impacts of the "greenhouse effect," the global warming caused by atmospheric build-up of carbon dioxide and other gases, and associated rise in sea level are not completely understood. A report by the San Francisco Bay Conservation and Development Commission (BCDC) projects a five-inch rise in sea level at the Presidio by 2006 and about an eight-inch rise by 2036.^{17/} Sea level is expected to rise at this rate during the first portion of the 21st century. Thereafter, "greenhouse effects" may further accelerate the rate of rise. (See also the Response on sea-level rise on pp. XV.J.3-XV.J.5 in XV.J. Hydrology and Water Quality.)

Increased Bay water levels caused by tsunami, seiche, and unusually high tides would be superimposed on these elevations; i.e., by 2006 the higher high tide would be five inches higher than that at present. Relative rise in sea level is likely to cause groundwater levels to rise in low-lying areas around the Bay.

In any case, changes in sea level occur gradually. The expected amount of sea-level rise for the life of the project could be considered and accounted for during building design. BCDC has established the following planning guidelines for shoreline development:^{17/}

To prevent damage from flooding, buildings on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by competent engineers. As a rule, structures on fill or near the shoreline should be above the wave runup level or sufficiently set back from the edge of the shore so that the structure is not subject to

dynamic wave energy. In all cases, the bottom floor level of structures should be above the highest estimated tide elevation.

A new mitigation measure, L.15, dealing with planning structures, infrastructure and open space to avoid the impacts of rising sea level is added to Volume Two, VI.L. Hydrology and Water Quality (see the Response on pp. XV.J.3-XV.J.5, XV.J. Hydrology and Water Quality, for the text of the measure).

EMERGENCY PREPAREDNESS

Emergency Response

Comment

Very little discussion is provided on the capacity of the City's emergency medical facilities to deal with earthquake casualties. The theoretical capacity is likely to be reduced very significantly due to two very serious problems (omitting access constraints): (a) damage to hospitals, particularly non-structural damage, such as broken mechanical systems and out-of-service elevators, which will severely reduce their effective service delivery capacity, and (b) for a non-working-hour earthquake, the dispersal of trained medical personnel at their residences, many outside San Francisco, which will prevent them from being able to provide medical services in San Francisco due to general failure of regional transportation routes.

Likewise, no discussion is provided on the capacity of the City's other emergency personnel - especially police and fire departments - to deal with earthquake circumstances. Again the theoretical capacity is likely to be reduced very significantly due to the problem (omitting access constraints) in a non-working-hour earthquake of the dispersal of trained personnel at their residences, many outside San Francisco, which will prevent them from being able to provide emergency services in San Francisco due to general failure of regional transportation routes. (John Elberling, San Franciscans for Reasonable Growth)

Response

The capacity of the City's emergency medical facilities, and all emergency resources, depends on the magnitude of the disaster event. Earthquake effects would dictate the course of emergency operations. City-wide hospital capacity would not be able to accommodate the number of injuries caused by a large earthquake. Hospitals should, however, take special

precautions to prevent non-structural hazards (even in the event of smaller earthquakes). Damage and injury, as well as loss of supplies, may be reduced by securing storage cabinets and equipment to walls and floors and by securing containers to shelves. Other types of equipment failure, such as out-of-service elevators, could reduce the overall efficiency of patient care.

Should an earthquake occur during non-working hours, the need for medical care is expected to be significantly less than it would be for a similar event that occurred on a working day. However, the need for fire personnel would be less dependent on the time when the earthquake occurred than would the need for medical personnel. The City of San Francisco has arrangements with private ferry boat and helicopter operators to transport San Francisco emergency personnel who are outside the City back to San Francisco to assist with disaster relief. Public notice to alert service personnel and inform them about transport arrangements would be issued through the Emergency Broadcast system./18/

Comment

There is no discussion in the DEIR at all regarding post-quake emergency housing needs. This is a significant matter for the Mission Bay project, since due to its poor soils many of its buildings will likely be unoccupiable after a major earthquake, although they will not have collapsed. In fact, the project's large open space areas can be viewed as a major resource, but those near the shorelines may be unusable as well due to ground failures. The emergency housing capacity of the Mission Bay open space (tents?) needs to be assessed for comparison to the new resident population. If not adequate, displaced residents of Mission Bay represent a new, additional demand on the other potential emergency housing sites in San Francisco, or for evacuation from San Francisco. . . .

The Mass Care Facility mitigation measure K.19 on page VI.K.54 is welcome, but needs to include an associated emergency housing plan, probably for pitching tents in the Mission Bay open space areas, with storage of supplies and materials for that purpose. Special attention needs to be paid to sanitation requirements. (John Elberling, San Franciscans for Reasonable Growth)

Response

Post-earthquake housing needs would depend on the severity of the earthquake. The distribution of

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damage cannot be known prior to the earthquake, and estimating the need for disaster relief supplies and emergency housing is difficult. The number of residents who would be displaced from Mission Bay after an earthquake is unknown and, as noted by the commenter, large open spaces in the Project Area may or may not be a major resource for sheltering the homeless, depending on the extent of ground failure surface disruptions and the quality of access to the area. Portions of the immediate (but temporary) housing needs could be provided in the City's mass care facilities. For longer-term housing needs, the Office of Emergency Services (OES) would seek assistance from the Federal Emergency Management Agency (FEMA) to acquire portable structures for San Francisco./18/

Mitigation Measures K.9 through K.16, on pp. VI.K.50-VI.K.52 of Volume Two, would reduce structural and non-structural damage substantially. With these special design considerations and earthquake preparedness, the project would be expected to sustain less damage than similar structures have sustained in past earthquakes.

Mass care facilities are administered by the Red Cross to provide food, shelter and some clothing to victims of a major disaster. Temporary shelter may be provided at a designated facility (school, park, etc.) or in open space near by. Tents could be included with the supplies kept at a mass care facility. If damage to housing stock were not extensive, the tents could provide a substantial part of needed emergency shelter. In a major earthquake disaster, it is unlikely that there would be sufficient tents to fully meet the need for emergency shelter, nor would there be space in which to pitch them if there were widespread destruction at, and in the vicinity of, Mission Bay.

Mitigation Measure K.19, on p. VI.K.54 of Volume Two, is revised to include a supply of tents at a mass care facility. To address sanitation needs, tools for hand-digging pit toilets should be stored at a mass care facility. Measure K.19 is also revised to include these sanitary supplies. The last two sentences of the second paragraph of Measure K.19 are revised and a new sentence is added, as follows:

- Design community facilities that do not normally provide emergency services so that they may be used after an earthquake to administer emergency services to supplement the primary mass care facility. Supply the mass care facility with food, water, and supplies to last three days, and tents to provide temporary housing. Tools for

hand-digging pit toilets should also be stored at the mass care facility.

Excavations on a larger scale could be accomplished with small earth-moving equipment that would be stored at the site if Mitigation Measure K.21, also on p. VI.K.54, were adopted.

Comment

One problem is that the proposed school site which might be used as a mass care facility is located near Mission Creek, and hence may be subject to seiche/bore flooding, per discussion above, and/or contamination by damage to sewer outfall facilities not far away, also per above, unless the other mitigation measures proposed above are implemented as well. It would be foolish to otherwise site a mass care facility where it may well be unusable after an earthquake. This needs careful EIR analysis. (John Elberling, San Franciscans for Reasonable Growth)

Response

Levees currently located along China Basin Channel are designed to contain the 100-year high tide, which is higher than the 100-year tsunami/seiche projected run-up. Most of the ground surface at Mission Bay is also above all 100-year flood zones./19/ Community facility sites proposed in Alternatives A, B and N would not be at risk of flooding in any foreseeable 100-year flood event. As such, water contamination caused by wastewater overflows into China Basin Channel would not likely affect the usefulness of emergency facilities. Furthermore, water from the channel is not used for any domestic purposes and is too saline to be used for drinking water, even in an emergency. Department of Public Health warning signs regarding use of Bay water would reduce any human health hazards.

Mass care facility site-selection and structural design are regulated by state law to insure minimal damage to such facilities./20/ Existing facilities are selected because they are likely to perform well in an earthquake.

Comment

There is no detailed discussion of post-earthquake mass care and emergency housing facilities Citywide and near Mission Bay. The capacity of designated mass care

facilities is an important factor, as is the estimated demand that will be placed on these sites from areas surrounding Mission Bay. Regarding emergency housing, the fact is the City has no plan, a serious omission in current emergency preparedness planning which should be disclosed, and which should be remedied with or without Mission Bay. In lieu of emergency housing, the principal alternative is long term evacuation of displaced residents outside the City. (John Elberling, San Franciscans for Reasonable Growth)

Response

The needs for post-earthquake mass care and housing cannot be reliably quantified. Although there is clearly a need for mass care facilities, temporary housing and long-term housing following an earthquake, the City has not forecasted damage estimates or the number of residents who potentially could be displaced.

The impact of an earthquake varies, depending on the nature of the earthquake and the type of structure. In the event of a major earthquake (Richter magnitude greater than 8), many areas of San Francisco may suffer only minor to moderate damage. A large percent of wood-frame residential buildings, which make up about 83% of the residential building stock in San Francisco /5/, are expected to be habitable following an earthquake. The unreinforced masonry residential buildings, however, may not be usable after an earthquake. At Mission Bay, most buildings, as described in the EIR Alternatives, would be expected to be habitable following a large earthquake (Mitigation Measures K.9 through K.15, on pp. VI.K.50-VI.K.52 of Volume Two, describe construction techniques that would reduce structural and non-structural hazards).

Mass care facilities and other agencies such as the Red Cross would provide short-term housing for displaced residents. FEMA plans call for providing mobile homes to disaster areas to accommodate displaced residents. Mobile homes were provided following the Coalinga earthquake of 1983./20/ Many of these facilities were used for long-term (one to five years) housing. Although some displaced residents are likely to leave the City, long-term evacuation to other Bay Area communities is unlikely. A large San Francisco-based earthquake would cause some damage throughout the Bay Area, and there would likely be housing shortages in other communities./21/

Mitigation Measures K.17 through K.19, on pp. VI.K.52-VI.K.54 of Volume Two and

discussed in this document, include emergency response plans, a mass care facility, emergency supplies, and short-term housing provisions. If these mitigation measures are adopted, project residents would benefit from emergency response services provided as part of the Mission Bay development. Improved emergency response and preparedness at the Project Area would reduce the demand on citywide emergency response and recovery resources.

Comment

The Emergency Response Plan mitigation measure K.17 on page VI.K.52 is a good start, especially since it will apply to both commercial and residential properties, but needs further definition. Items to carefully assess would also include vulnerable populations, such as the elderly and disabled, requirements for storage of small amounts of flammable and hazardous materials (as opposed to major amounts per mitigation measure K.24), resident education, coordinated use of supplies in retail stores for emergency needs, and so on. Of particular interest is the ability to maintain a residential structure as habitable after an earthquake, damage permitting, and thereby reduce overall emergency housing and/or evacuation needs. Current building code does not address this issue - for example, code-required emergency generators for under-75 foot multiunit buildings are not sized (ampereage) to power building non-emergency lighting or the elevators' operation, and their required fuel reserves are limited to several hours supply rather than many days as would be needed. Sanitation after an earthquake is a major unresolved question, since it poses serious health dangers for survivors. (John Elberling, San Franciscans for Reasonable Growth)

Response

The elderly and disabled would be at greater risk of injury during and following an earthquake. Sound building design and construction are the primary ways to avoid injury to the general population and to individuals in high-risk groups. The OES in San Francisco coordinates earthquake preparedness efforts that include provisions for public education, emergency supplies and residential and business preparedness (see pp. VI.K.16-VI.K.17 of Volume Two). In addition, the Bay Area Regional Earthquake Preparedness Program (BAREPP) coordinates these efforts with residents, businesses and volunteer organizations. BAREPP (and private organizations) work to encourage better

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earthquake preparedness in Bay Area communities. Emergency response goals include providing and organizing the distribution of emergency supplies to facilitate post-earthquake recovery, and aiding in efforts to rebuild earthquake-damaged areas.

Current building codes regarding emergency generators balance fire risk with emergency needs. On-site storage of large volumes of fuel is not safe during a fire or an earthquake. Emergency generators would provide a minimum amount of emergency power and are not intended to supply the normal energy demands of an entire building.

Sanitation after an earthquake would be a major issue. Tools for hand-digging pit toilets should be available in the mass care facility, and emergency plans should include larger pit toilets and/or portable toilets brought from outside the stricken area. (See Mitigation Measure K.19 [revised in the Response on pp. XV.I.16-XV.I.17 to include the provision that tools for hand-digging pit toilets be stored at the mass care facility] and Mitigation Measure K.21 on p. VI.K.54 of Volume Two.)

Comment

There is no discussion in the DEIR at all regarding potential post-quake water contamination, especially due to damage to the City's adjacent eastside collector sewer system and Mission Creek treatment facilities. Serious health dangers may result. (John Elberling, San Franciscans for Reasonable Growth)

Response

Water contamination is a concern following a major earthquake due to ruptured water and sewer pipes. This type of damage is most common when ground failure occurs and where utility conduits are not properly designed. The need for properly designed utility connections is discussed in Mitigation Measure K.2c, on p. VI.K.47, and in Mitigation Measure K.22, on pp. VI.K.54-VI.K.55 of Volume Two.

Disruption of sewage treatment facilities would affect sanitation in entire service areas. Measure K.19, on p. VI.K.54 of Volume Two, recommends storage of a three-day drinking-water supply for emergency needs, and City emergency response plans include provisions for distributing drinkable water from reserves of high-quality water (reservoirs) in the event of water contamination.^[22] Although contamina-

tion of China Basin Channel and nearby Bay water would have adverse effects, no serious human health hazards would result because the water is not used for human consumption. Any contact with or domestic use of the water would be discouraged by implementation of Mitigation Measure L.14, on p. VI.L.39 of Volume Two. This mitigation measure requires that railings and barriers be placed along the channel to restrict access, and that multi-lingual explanation and warning signs be posted along the channel to explain potential health consequences of water contact and eating fish from the channel.

Casualty Estimates

Comment

The discussion of casualty estimates on pages VI.K.42 ff. does not place any such estimates in their proper statistical context. To express a formula-generated prediction of 'five or ten' serious injuries or deaths in a scenario, for example, fails to note that just one major building failure in that scenario might as well kill 100 occupants; the Mission Bay "sample" is not large enough to statistically 'smooth out' random fluctuations in the data which are normal in real events. Thus the methodology used in the DEIR is inappropriate, and the entire section needs major qualification and further assessment of 'worst case' circumstances. In addition, although noting accurately the likely delay in emergency response to the project area due to its partial isolation from the north and west, the impact of this upon estimated casualties is not a factor in the DEIR's structure-based formula for estimating deaths. Some will die due to lack of early medical care who would normally survive their injuries. This will likely be exacerbated due to the diminution of medical care capacity citywide discussed above. Again, the DEIR uses an incomplete and hence inappropriate methodology. Likewise, although noting that the elderly and disabled constitute a higher-risk population, their Mission Bay resident population is not estimated (it should be several thousand) and no coefficient is applied to casualty estimates to adjust the building-based formulas utilized by the DEIR for this high-risk group. These are serious issues: the DEIR is badly flawed and very misleading for non-technical readers in this regard. (John Elberling, San Franciscans for Reasonable Growth)

Response

Predicting the number of deaths and casualties caused by an earthquake is difficult and depends

on many unknown factors. The method used in the EIR (see Volume Two, p. VI.K.39) is based on the Applied Technology Council's formula that is derived from actual earthquake events.^{/4/} The commenter is correct: the estimates of numbers of casualties derived from this method are less accurate for small areas than estimates based on calculations that take into account the entire damaged area. Indeed, the collapse of one large building can strongly affect the number of deaths per 10,000 population.

Estimates presented in the EIR, however, were derived using the best available technique. As stated in the EIR, the numbers are not exact predictions of injuries or deaths and are based on assumptions that may or may not be realized in a major earthquake. Numbers of casualties are intended to provide a means for comparing the potential impact of each Alternative. They are not intended to represent absolute numbers but relative values. In a very large earthquake in San Francisco there will be many deaths and injuries. Implementation of Mitigation Measures K.9 through K.16, on pp. VI.K.50-VI.K.52 of Volume Two, would minimize casualties in the Mission Bay area.

Estimates included in the EIR are conservative and are based on heavy construction (which yields higher casualty values than wood-frame or light-metal construction) and assume 30% damage. Proposed structures, eight stories and fewer, and constructed of earthquake-resistant materials in accordance with the 1988 UBC, should result in fewer casualties.

Casualty rates were derived by expert earthquake engineers based on historic earthquakes and professional experience. Historically, damaging earthquakes in California, Alaska, Washington, and South Carolina were studied. Casualty estimates take into account real populations that include the elderly, the disabled and other high-risk populations. Additional casualties caused by delayed emergency response are intrinsically included in the earthquake casualty estimates used in the EIR. There is no reason to assume that the population distribution of San Francisco is significantly different from that of other U.S. cities that have experienced damaging earthquakes in the past.

The building-based technique is the most appropriate for estimating earthquake-induced casualties. The formula assumes that given a certain percent damage, buildings constructed of heavy materials will cause more casualties than buildings composed of lightweight materials. Structures that withstand seismic shaking without damage will cause very few deaths or injuries.

As indicated in Volume Two of the EIR on pp. VI.K.40-VI.K.41, due to Mission Bay's isolated geographic character, there would likely be delays in emergency response following a major earthquake. If site access and egress are diminished, then delivery of medical services may be delayed, leading to higher casualties than might occur in other parts of the City. There is no way to quantify the magnitude of this impact before an actual earthquake event occurs.

NOTES - Geology and Seismicity

- /1/ EQE Engineering, "Responses to Comments on the Mission Bay Draft Environmental Impact Report," memorandum, pp. 1 and 2, March 23, 1989.
- /2/ Youd, T.L., and S.N. Hoose, Historic Ground Failures in Northern California Triggered by Earthquakes. U.S. Geological Survey, Professional Paper 993, 1978.
- /3/ Lawson, A. C., et al., The California Earthquake of April 18, 1906: Report of the State Earthquake Investigation Commission, 2v and atlas, Carnegie Institution, Washington, D.C., 1908.
- /4/ Association of Bay Area Governments, Building Stock and Earthquake Losses - The San Francisco Bay Area Example, May 1986.
- /5/ Blume, J. A., San Francisco Seismic Safety Investigation, Geologic Evaluation, URS Associates, 1974.
- /6/ Perkins, J. B., The San Francisco Bay Area -- On Shaky Ground, Association of Bay Area Governments, February 1987.
- /7/ Davis, J. F., J. H. Bennett, G. A. Borchardt, et al., Earthquake Planning Scenario for a Magnitude 8.3 Earthquake on the San Andreas Fault in the San Francisco Bay Area, California Department of Conservation, Division of Mines and Geology, Special Publication 61, 1982.
- /8/ Seed, H.B. and J. Sun, Implication of Site Effects in the Mexico Earthquake of Sept. 19, 1985 for Earthquake-Resistant Design Criteria in the San Francisco Bay Area of California, unpublished summary of proceedings of the Seismic Safety Commission, Sacramento, California, February 1989.
- /9/ San Francisco Chronicle, "Financial District's Feet of Clay," February 10, 1989, by Charles Petit (Chronicle Science Writer).

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/10/To accommodate a new chapter added to the Final EIR, Chapters VIII., IX. and X. of the Draft EIR are renumbered, and Chapters XI. and XII. combined. (This is explained in the opening paragraphs of XV.Q. Sports Facilities.) In the Final EIR, therefore, see Chapter XI., p. XI.1 of Volume Two.

/11/City and County of San Francisco, Department of City Planning, Seismic Safety, Mission Bay - San Francisco, prepared by EQE, September 1986.

/12/California Division of Mines and Geology, "The San Fernando Earthquake 1971," California Geology, April-May, 1971. Toppozada, T.R., C.R. Real, and D.L. Parke, "Earthquake History of California," California Geology, February 1986.

/13/Bishop, C.C., et al. "Geologic and Geophysical Investigations for Tri-Cities Seismic Safety and Environmental Resources Study," California Division of Mines and Geology, Preliminary Report 19, 1973, p. 16.

/14/California Division of Mines and Geology, "Urban Geology Master Plan for California", Bulletin 198, 1973.

/15/Seismic Investigation and Hazard Survey Advisory Committee, Memorandum of September 2, 1987, "Review comments Mission Bay Preliminary Draft EIR..."

/16/Bates, R.L., and J.A. Jackson, Dictionary of Geologic Terms, Third Edition, Anchor Press/Doubleday, Garden City, New York, 1984.

/17/San Francisco Bay Conservation and Development Commission, "Staff Recommendation on Bay Plan Amendment No. 3-88 Concerning Sea Level Rise in the Bay," December 1988.

/18/Thomas Jenkin, Acting Director, Mayor's Office of Emergency Services, telephone conversation, May 26, 1989.

/19/San Francisco Department of City Planning, Canal System, Mission Bay, San Francisco, Table 1, September 1986.

/20/California Health and Safety Code, Sections 16000 through 16023. "Essential Services Buildings Seismic Safety Act of 1986."

/21/Thomas Jenkin, Acting Director, Mayor's Office of Emergency Services, telephone conversation, August 16, 1989.

/22/Thomas Jenkin, Acting Director, Mayor's Office of Emergency Services, personal interview, March 14, 1989.

**STAFF-INITIATED TEXT CHANGES
FOR GEOLOGY AND SEISMICITY**

The following staff-initiated revisions are made to the Geology and Seismicity subchapters and appendix in the Mission Bay Draft EIR.

Volume One - Chapter II. Highlights & Conclusions (Geology & Seismicity)

To provide information on the 1989 Loma Prieta earthquake, the following paragraph is added before the last paragraph in the right-hand column on p. II.78:

- A magnitude 7.1 earthquake occurred in October, 1989 (the Loma Prieta earthquake). Its epicenter was about ten miles northeast of Santa Cruz. Groundshaking, which lasted about 15 seconds, damaged areas up to 50 miles from the epicenter. Damage in San Francisco and Oakland was widely distributed, but concentrated in relatively small areas. In San Francisco, damage was generally greatest in areas of filled land along the northern and eastern edge of the City.

The first sentence in the last paragraph, right-hand column, on p. II.78 is revised to state:

- For planning purposes, a magnitude 8.3 earthquake on the San Andreas Fault and a magnitude 6.9 earthquake on the Hayward Fault are considered probable.

The first sentence in the first paragraph under "Earthquake Damage" on p. II.79 is revised to state:

- In an earthquake, buildings constructed on unengineered fill and Bay Mud will shake more than buildings supported by bedrock.

The first sentence in the second complete paragraph in the left-hand column on p. II.80 is revised to state:

- In Alternative A, an early morning (2:00 a.m.) earthquake could cause about five to ten serious injuries or deaths and about 45 to 50 minor injuries to building occupants in Mission Bay; casualties from an early afternoon (2:00 p.m.) earthquake would be about double.

The third sentence in the first paragraph under "Mitigation Measures," in the right-hand column on p. II.80, is revised to state:

- Five measures would mitigate settlement by requiring an engineering investigation of soil properties, using pile-supported or other appropriate foundations as required, reusing existing piles where possible, using leveling jacks or other available techniques for buildings with shallow foundations, and using surcharging (preconsolidating soil by placing additional fill on site before construction) and vertical drains where warranted.

On p. II.80, right-hand column, the second and third sentences in the second paragraph under "Mitigation Measures" (the third sentence continues on p. II.81) are revised to state:

- One measure would compact sandy soil to reduce the likelihood of liquefaction and lateral spreading, and another would require automatic shut-off devices on natural gas lines. Five measures would improve emergency response by requiring an emergency response plan for Mission Bay, specifying siting and design features for emergency facilities, requiring a mass care facility in Mission Bay, installing cisterns and suction hydrants for bay water to increase fire-fighting capabilities, and storing heavy equipment within the Project Area to provide transport, open access, and clear debris after a major earthquake.

Volume Two - VI.K. Geology and Seismicity

To provide information on the 1989 Loma Prieta earthquake, the following is added after the fourth sentence in the second paragraph under "Faulting and Earthquakes" on p. VI.K.11. The fifth sentence in this paragraph is changed to start a new paragraph.

- A major earthquake of Richter magnitude 7.1, the Loma Prieta earthquake, occurred in October 1989. The epicenter was located about ten miles northeast of Santa Cruz. The earthquake produced strong groundshaking that lasted about 15 seconds and caused extensive damage in the epicentral region in Santa Cruz, Watsonville, Hollister, and Los Gatos. Other areas, as far as 50 miles from the epicenter, were also damaged. Damage in San Francisco and Oakland was widely distributed but was concentrated in relatively small geographical areas.

Damage in San Francisco was generally greatest in areas located in filled land along

the northern and eastern edge of the City. Liquefaction-induced ground failure and ground settlement affected some filled areas (particularly the Marina District and the South of Market area), causing severe property damage and fire. Older, unreinforced masonry buildings performed poorly, with partial collapse, foundation failure and parapet damage occurring through a wide area. Some newer buildings (1970's and later) were also damaged; often damage caused temporary closure, but repairs were performed rapidly and use restored.

One span of the upper deck of the Bay Bridge collapsed. The bridge was temporarily closed (for one month) for repairs. Short-term effects to regional transportation occurred, as drivers found alternative routes between the East Bay and San Francisco (San Mateo and Richmond/Golden Gate Bridges) or used alternative travel modes (BART and ferry). Within San Francisco, major damage to State Route 480 (Embarcadero Freeway) and the I-280 extension caused closure of these roads (repairs are expected to be completed by Caltrans within two to three years), and no long-term transportation impacts are anticipated.

Data on the Loma Prieta earthquake support the groundshaking intensities projected for the Project Area by ABAG in "On Shaky Ground" for the maximum credible earthquake event (magnitude 8.3 centered near San Francisco). Those projections are used in the impact analysis in this EIR.

On p. VI.K.45, the first sentence of the first paragraph of Mitigation Measure K.2 is revised, and a new sentence is added at the end of that paragraph. As revised, the first paragraph states:

- Use pile-supported buildings wherever engineering practices indicate they are needed based on soils reports prepared as required by the Bureau of Building Inspection. That would reduce the need for excavation and mitigate some impacts of settlement and seismic events. Other foundation types providing equivalent mitigation against settlement or other structural damage due to seismic impacts also may be used.

The first full paragraph on p. VI.K.46 is revised to state:

- However, although buildings on piles would not settle because the weight would be supported by stiff sediments or bedrock, the surrounding soil would continue to settle, resulting in disturbance or damage to

XV. Summary of Comments and Responses

I. Geology and Seismicity

infrastructure connections to the buildings if flexible materials are not used in the connections.

The second full paragraph on p. VI.K.46 is not changed, but the two listed items following that paragraph are revised, as follows:

- An earthquake would affect pile-supported buildings less severely than buildings with shallow foundations for the following reasons:
 - Liquefaction in unconsolidated, saturated, sandy sediments would not cause extensive damage to pile-supported buildings.
 - Accelerated settlement of unconsolidated sediments, due to groundshaking, would not directly affect pile-supported buildings.

Mitigation Measure K.2b, on p. VI.K.47, is revised to state:

- Design connections between the fixed, pile-supported structures and unsupported sidewalks and driveways to reduce the likelihood of separation due to settlement. The sidewalks and driveways would require special strengthening to withstand the stress created between stationary buildings and settling soil.

The first sentence of Mitigation Measure K.4, which begins on p. VI.K.47 and continues on p. VI.K.48, is revised, as follows. The second sentence of this measure is deleted.

- Alternatives A,B,N - If shallow foundations are used for any buildings, install leveling jacks as part of the foundation or use other available methods to compensate for differential settlement based on soil engineering recommendations.

On p. VI.K.49, the phrase "or plastic pipes" is deleted from the second sentence of Mitigation Measure K.8. As revised, this measure states:

- Alternatives A,B,N - Test soils for sulfate and chloride content. If necessary, use admixtures in concrete so it would not be susceptible to attack by sulfates, and/or use coated metal pipes so that pipes would be more resistant to corrosion by chlorides.

On p. VI.K.52, the full paragraph before the heading "Ground Failure" is revised to state:

- Require that residential units have braced water heaters, and that chimneys in wood-frame buildings should not be of

masonry materials unless they are reinforced construction./53/

On p. VI.K.52, the first sentence of Mitigation Measure K.15 is revised to state:

- Make sandy soil more dense if determined necessary so that liquefaction and lurching would not cause significant impacts to structures not otherwise protected against liquefaction.

On p. VI.K.53, the following changes are made to the first, third and fifth listed items under Mitigation Measure K.18. As revised, the first through fifth items state, in their entirety:

- Construct emergency facilities using foundation design techniques that provide maximum seismic safety.
- Do not site emergency facilities where more than two inches of settlement is expected during the next 30 years.
- Locate emergency facilities away from elevated freeway structures which could shed debris or collapse in a major earthquake, damaging the facility or making it inaccessible.
- Design redundant infrastructure connections.
- Design a conservative structure which would be likely to suffer limited damage in a major earthquake (equivalent to Level of Risk 2 construction as described in the Community Safety Element of the San Francisco Master Plan)./54a/

The following new note, /54a/, is added after note /54/ on p. VI.K.61:

- The Community Safety Element of the Comprehensive Plan, San Francisco, 1974, defines Risk Level 2 in the following way:
 - "• No structural collapse or mechanical failure should occur that could cause loss of life.
 - "• Mechanical systems may fail to operate but failure of mechanical or architectural elements such as light fixtures, pipes or ducts, suspended ceilings, or elevators should not cause loss of life.
 - "• Failure of mechanical systems should be limited to that which can be quickly repaired with minimal outside assistance.

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I. Geology and Seismicity

- Damage may occur to interior or exterior finishes or to contents of structures.
- No damage that would preclude rapid restoration to operational capability should occur.
- Applies generally to structures of medium-to-high-density occupancy and structures whose use following a disaster might be desirable but not critical:
 - large stores
 - theatres and other places of public assembly
 - office buildings
 - large apartment buildings or complexes
 - large hotels
 - police stations
 - schools
 - jails and detention centers
 - dormitories
 - convalescent hospitals"

The first sentence of Mitigation Measure K.19, on p. VI.K.54, is revised to state:

- Build a mass care facility, which would incorporate an area in which helicopters could land on an emergency basis.

Mitigation Measure K.20, on p. VI.K.54, is revised to state:

- Alternatives A,B,N - Provide cisterns in the Project Area to store water and suction hydrants to use Bay water for fighting fires.

Some of the notes at the end of VI.K. Geology and Seismicity are corrected. Book and plan titles are underlined in the EIR; underlines beneath titles in the following notes therefore do not necessarily indicate revisions.

Note /7/, on p. VI.K.57, is revised, as follows:

- Goldman, Harold B., "Geology of San Francisco Bay," in Harold B. Goldman, editor, Geologic and Engineering Aspects of San Francisco Bay Fill, California Department of Conservation, Division of Mines and Geology, Special Report 97: 11-29, 1969, p. 18.

Note /22/, on p. VI.K.58, is changed to include a reference to a month, as follows:

- Blume, John A., San Francisco Seismic Safety Investigation, Geologic Evaluation, URS Associates, June 1974.

Note /26/, on p. VI.K.59, is revised to state:

- /26/ J.R. Ritter and W.R. Dupre, Map showing areas of potential inundation by tsunamis in the San Francisco Bay Region, California, U.S. Geological Survey Miscellaneous Field Studies Map MF-480, 1972.

Note /43/, on p. VI.K.60, is changed to state:

- /43/ San Francisco Department of City Planning, Preliminary Earthquake Risk Assessment of Mission Bay Project: Background for Mission Bay Seismic Safety Special Study, prepared by EQE, 1986.

Note /54/, on p. VI.K.61, is revised to state:

- /54/ San Francisco Department of City Planning, Preliminary Earthquake Risk Assessment of Mission Bay Project: Background for Mission Bay Seismic Safety Special Study, prepared by EQE, 1986.

Volume Three - Appendix I. Geology and Seismicity

Footnote /a/ in Table XIV.I.2, on p. XIV.I.2, is changed to correct an author's name, as follows:

- /a/ Applied Technology Council, draft, 1985. ATC-13 - Earthquake Damage Evaluation Data for California. Prepared by Christopher Rojahn and Roland L. Sharpe for the Federal Emergency Management Agency. Heavy construction is steel, masonry and concrete. Light construction is wood frame and light metal.

J. HYDROLOGY AND WATER QUALITY

DREDGING AND DREDGE DISPOSAL

Comment

The discussion on page II.82 on the impacts of dredging China Basin Channel and the subsequent disposal of the dredged material should be made more specific. The EIR should identify the particular disposal site to be used, or at least discuss the impacts associated with the various alternatives being considered. For example, if the Alcatraz in-bay disposal site is being considered, the EIR should discuss how the China Basin Channel dredging would contribute to the mounding problem that has developed there and the concern that turbidity caused by the release of dredged material at Alcatraz may be having serious adverse effects on fisheries. . . .

The discussion of the water quality effects of dredging contained on pages VI.L.24 through VI.L.27 should be revised. The information contained in the DEIR about previous testing of China Basin Channel sediments indicates that the sediment may be seriously contaminated with inorganics such as chromium, copper, lead, and silver and with DDD and DDT, containing more of these pollutants than the sediment at the Alcatraz disposal site and at other nearby locations in the Bay. Given this serious contamination threat, the location and manner of dredged material disposal is of more concern in this case than perhaps with other dredging projects and needs to be more fully addressed in the EIR.

The last sentence of Page VI.L.25 indicates that the sediment testing that will be required for this project should not be done until sometime after the EIR is published because testing done prior to that time would be done too far in advance of the actual dredging to be worthwhile. Consequently, no disposal site has yet been selected. Instead of waiting to perform all the necessary testing after publication of the EIR, we would prefer that a first round of tests be conducted now with follow up testing later as needed so that the contamination problem can be fully evaluated, a specific disposal site identified, and the impacts of the disposal fully analyzed and described in the EIR. If testing cannot be done now, the EIR should at least fully describe the expected impacts of disposal under the various possible results of the testing. There would appear to be a strong likelihood that the material to be dredged will not be suitable for aquatic disposal and may

have to be taken to an upland disposal site. The EIR should identify the upland locations where the material could be taken, the feasibility and cost of transporting such large quantities of material to these sites, and the impacts of transporting and disposing of the material there.

Page VI.L.26 quotes portions of the Bay Plan's policies on dredging but not the most significant portions. We believe it would be more appropriate to quote the following policy which was added to the Bay Plan in 1987:

"Prior to authorization of dredging or the disposal of dredge materials in the Bay, the Commission should assure that adequate testing of the sediments will be done and that the sediments will be dredged and disposed of consistent with the requirements of the Regional Water Quality Control Board and the Environmental Protection Agency."

One ramification of this policy is that the Commission has generally been requiring applicants to secure all necessary water quality certifications from the Regional Board and EPA prior to receiving BCDC approval. Given the current indications that the sediment proposed to be dredged is seriously contaminated, the Commission would likely follow that practice for this project. Therefore, the applicant should perform the needed sediment testing prior to filing a BCDC permit application for the project.

Page VI.L.26 mentions the sediment mounding problem that has developed at the Alcatraz dredged material disposal site, but by discussing the impacts of disposal of sediment from the Mission Bay project at Alcatraz in light of past disposal, the EIR inappropriately downplays the significance of the impact. A clearer picture of the problem could be presented by discussing the proposed sediment disposal at Alcatraz in light of the remaining capacity of the disposal site. The Corps of Engineers recently estimated that the Alcatraz disposal site has only two million cubic yards of capacity left. The DEIR points out that there is a demand to dispose of at least five million cubic yards of material there every year. This five million cubic yards of demand cannot be compared directly to the two million cubic yards of remaining capacity because some of the material that is dumped does, in fact, disperse with the tides. However, with retention rates estimated at ranging between 10% to 40%, one can see that the capacity of the site will soon be exceeded. Given these alarming statistics, the project could have a cumulative effect on the mounding problem, despite the relatively modest amount of dredging proposed. The DEIR should

*more fully evaluate this impact. (William Travis,
San Francisco Bay Conservation and
Development Commission)*

Response

Dredging in China Basin Channel is included in Alternative A. Existing data on channel sediments are summarized on p. VI.L.10 of Volume Two. The detailed analysis of the channel sediments, which would be required as part of the application requirements for a dredging permit from the U.S. Army Corps of Engineers (COE), the Environmental Protection Agency (EPA), and the Bay Conservation and Development Commission (BCDC), has not been conducted. The availability of sediment sample data from the San Francisco Clean Water Department (though more limited) has, however, enabled the EIR to characterize the channel sediments in a more general manner. To emphasize the likely unsuitability of dredge spoils from China Basin Channel for aquatic disposal, the following sentences are added before the last sentence in the first full paragraph on p. VI.L.26 of Volume Two:

- Special handling refers to treatments such as drying or containment of toxic wastes prior to disposal. If special handling were required, aquatic (bay or ocean) disposal would not be possible.

As stated on pp. VI.L.25-VI.L.26 of Volume Two, a three-tiered approach to making permit decisions for the aquatic disposal of dredged material has been established by the COE and the EPA. At a minimum, Tier 2 (and possibly higher level) testing would be required before an appropriate disposal site could be selected for any sediments dredged from China Basin Channel. Testing likely would occur a short time before the dredging itself takes place, because if material to be dredged is tested for contaminants several months or years before the actual dredging occurs, the test results cannot be used./1/

If either an upland disposal location or an ocean disposal location were under consideration, the COE, the Regional Water Quality Control Board (RWQCB), BCDC, and other permitting agencies would evaluate the potential impacts of disposal at the alternative disposal sites as part of the permitting process. The following statement from the Comment is added before the last sentence in the third full paragraph on p. VI.L.27 of Volume Two:

- BCDC would require that all necessary water quality certifications from the RWQCB and

the EPA be approved before BCDC approval for dredging would be given. The applicant would have to perform the needed sediment testing prior to filing BCDC permit applications.

It is unlikely that the Alcatraz Island aquatic disposal site will be an available alternative for disposal of China Basin Channel dredged material./2/

The following is added at the end of the partial paragraph at the top of p. VI.L.27 of Volume Two:

- The COE has estimated that approximately 70% of the dredged sediment which is disposed of in San Francisco Bay remains in the Bay. According to the RWQCB, an accumulation of mounding dredged sediments at the Alcatraz site has resulted in a navigational hazard and reduces beneficial uses of the area by degrading benthic habitats. Furthermore, the California Department of Fish and Game has stated that the disposal of dredged sediments may have an adverse effect on the fishery resources of San Francisco Bay and has recommended that disposal in the Bay be reduced. For these reasons, the capacity of the Alcatraz site is limited./31a/

The following new note, /31a/, is added after note /31/ on p. VI.L.42 of Volume Two:

- /31a/ California Regional Water Quality Control Board, San Francisco Bay Region, Tentative Resolution No. 89, "Policy for the Regulation of Dredged Sediment Disposal in the San Francisco Bay Region."

On p. II.82 of Volume One, the last sentence of the third paragraph in the right-hand column is deleted. A sentence is added to the end of this paragraph and a new paragraph is added after it, as follows:

- Water quality standards would be established by the Regional Water Quality Control Board.

The Bay Conservation and Development Commission (BCDC) would require that water quality certification and state and federal permits be obtained before approval of dredging. Due to limited capacity at the Alcatraz disposal site, it is unlikely that Bay disposal would be possible. Sediments would be tested before filing a BCDC permit application. If testing showed that disposal would have a significant effect on water quality, the dredge spoils would require land disposal.

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J. Hydrology and Water Quality

As stated on p. VI.N.28 of Volume Two, VI.N. Hazardous Wastes, dredged materials that contain high concentrations of hazardous materials could probably not be deposited in San Francisco Bay and would likely need to be disposed of at an approved upland location. Due in part to the mounding of material at the site and the already high demand for available space, it is expected that the COE will refuse all applications for disposal of new material, and only material from maintenance dredging (dredging necessary for the continued use of existing waterways and harbor facilities) will be accepted./3/

As an alternative to an off-site upland disposal site, the dredged sediments from China Basin Channel could be disposed of on-site within an entombment system. Approval from the California Department of Health Services (DOHS) and the EPA is required before entombment can be used. The entombment must be above the water table; seismic safety must be incorporated into its design; a leachate collection system and vents for the escape of gases may be required. High-density polyethylene liners and/or concrete could be used to contain the dredged sediments. Clean fill is used to "cap" the structure, which then must be sloped, seeded with grasses, and maintained, in order to prevent erosion. Deed restrictions are placed on subsequent property use and construction on the site./4/

There are four general-use Class I land disposal sites in the western United States which are available: the Casmalia Resources, Inc., site in California; the Chemwaste site, also in California; the Envirosafe Services of Idaho, Inc. site; and the U.S. Pollution Control, Inc. site in Utah. Additionally, other Class I sites are available that accept hazardous wastes of a specific nature or a specific degree of toxicity. To select and use one of these sites, an advanced level of testing would be required to determine the type and degree of toxicity in the dredged material. All of the Class I sites mentioned require drying and stabilization of the dredged material./5,6/ The option of Class I disposal would cost approximately \$300 per dry ton (1989 dollars). This cost includes loading, transportation, gate fees, and applicable taxes. The cost may rise, depending upon the results of sediment testing and the imposition of federal land bans on the disposal of hazardous wastes. The use of alternative technologies may lower the cost of disposal, pending approval and regulation by the DOHS and the RWQCB.

It is likely that other treatments and disposal options may become available in the future with

new incineration and extraction technologies which would provide an alternative to upland disposal.

As described on p. VI.L.25 of Volume Two, compounds in the dredged sediments tend to remain bonded to the sediments, rather than being released to the water column. Any release to the water column would be a short-lived effect. Therefore, the effects on water quality are not expected to be significant.

(See also the Response to "Disposal of Dredge Spoils" in XV.L. Hazardous Wastes, p. XV.L.24).

SEA/GROUNDWATER LEVELS

Comments

No discussion is presented regarding possible changes in sea level during coming decades. Estimates vary and data is uncertain, but there is a growing scientific consensus that global climate warming will lead to a significant rise in sea level, up to several feet, which would affect San Francisco Bay. This would raise ground water levels at Mission Bay as well, which may present major new problems for building foundation and utilities construction. It may lead to hydrological complications in Mission Creek [China Basin Channel] and its stormwater outfall, it may reduce boat clearances at the two existing bridges, and it may increase potential seiche run-up areas. The latter is important since such considerations would affect the design of waterside open space improvements, if berms are employed therein for containment purposes. (John Elberling, San Franciscans for Reasonable Growth)

How does the configuration of Alternative B's wetlands account for the effects of sea-level rise? . . .

Also, be sure that the buffer area around the wetland is large enough to allow inland movement of the wetland due to projected sea-level rise. (Toby Levine, Mission Creek Conservancy)

Response

In note /20/ on p. VI.L.41 of Volume Two (this note references BCDC's rising sea-level report), the EIR states that a sea-level rise of two to eight feet could occur in San Francisco Bay during the next century.

BCDC's report projects a five-inch rise in sea level at the Presidio by 2006 and about an eight-inch rise by 2036 (based on historic sea-level rise).^{/7/} Sea level is expected to rise at this rate during the first portion of the 21st century. Thereafter, "greenhouse effects" may further accelerate the rate of rise. (See XV.F. Air Quality, pp. XV.F.1-XV.F.2, for a discussion of the greenhouse effect.)

In any case, changes in sea level occur gradually. Because changes in sea level occur slowly, the report considers about an eight-inch rise in sea level by the year 2036, as described in the BCDC report, as the most practical planning scenario.

The following text is added to p. VI.L.19 of Volume Two, as the second paragraph under "Flooding":

- **If sea levels were to rise, flooding would occur more frequently. Changes in sea level have been constant and gradual over the past 5,000 years. Recent studies by the Environmental Protection Agency (EPA), however, indicate that a global warming trend will lead to an acceleration in the rise of sea levels worldwide. According to a report prepared by the San Francisco Bay Conservation and Development Commission, the mean sea level at the Presidio would rise 0.43 foot (5.16 inches) by the year 2006, and 0.65 foot (7.8 inches) by the year 2036.**^{/20a/}

The following new note, /20a/, is added after note /20/ on p. VI.L.41 of Volume Two:

- **/20a/ San Francisco Bay Conservation and Development Commission, "Staff Recommendation on Bay Plan Amendment No. 3-88 Concerning Sea Level Rise in the Bay," December 1988.**

The expected amount of sea-level rise for the life of the project could be considered and accounted for during building design. BCDC has established planning guidelines for shoreline development, which state:^{/7/}

To prevent damage from flooding, buildings on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by competent engineers. As a rule, structures on fill or near the shoreline should be above the wave runup level or sufficiently set back from the edge of the shore so that the structure is not subject to dynamic wave energy. In all cases, the bottom floor level of structures should be above the highest estimated tide elevation.

Since groundwater levels at Mission Bay are about mean sea level, as sea level rises, the groundwater level will on average rise the same amount. Higher groundwater levels of the magnitudes discussed in the BCDC report in the next 50 years or so would not present "major new problems for building foundation and utilities construction" at Mission Bay. These problems are present now.

The following text is added to p. VI.L.19 of Volume Two as the third paragraph under "Flooding":

- **Provisions for higher groundwater levels can be accommodated at Mission Bay in the design stage for structures and infrastructure. Higher water levels would result in more flushing of the channel but would not otherwise cause hydrological complications. Clearances for boats would be reduced at the two existing bridges, but deeper water and more flushing would reduce the need for dredging to clear the channel for navigation. Seiche run-up is discussed in XV.I. Geology and Seismicity, pp. XV.I.14-XV.I.15.**

To address potential impacts of such a rise in sea level, the following new mitigation measure, L.15, is added to p. VI.L.39 of Volume Two to follow Mitigation Measure L.14:

- **Alternatives A,B,N - Structures in the Project Area should be designed and located in such a way to assure the reasonable safety of structures and shoreline protective devices built in the Bay or in low-lying shoreline areas from the dangers of tidal flooding, including consideration of a rise in relative sea level. BCDC recommends using a sea-level rise estimate of 0.005 to 0.05 foot per year as a planning guideline for developing waterfront land uses. Detailed construction specifications to mitigate against impacts of a sea-level rise, however, would require specific flood protection engineering and building analysis by a licensed engineer, using the criteria identified by BCDC.**^{/20a/}

Measures include:

- setback from the water's edge;
- installation of seawalls, dikes, and/or berms during construction of infrastructure;
- provisions for dewatering basements;
- elevated uplands near wetlands and design of wetlands so that islands and refuges for small mammals and birds may be periodically increased in elevation if this becomes necessary (Alternative B only);
- construction of streets and sidewalks above

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J. Hydrology and Water Quality

- existing grades by reducing the amount of excavation for utilities or basements;
- use of topsoil to raise the level of public open spaces;
- use of half-basements and partially depressed garage levels to minimize excavation.

(See p. XV.J.4 for the text of note /20a/.)

The following new sentence is added to the end of the paragraph in the right-hand column on p. II.85 of Volume One:

- **The last measure applies to all Alternatives and would reduce flooding impacts at Mission Bay associated with a potential rise in sea level.**

Because a new mitigation measure is added to VII.L. Hydrology and Water Quality, p. II.85 also is changed in the following ways. Under "Mitigation Measures," in the left-hand column, the first sentence in the first paragraph is revised to state:

- **Fifteen mitigation measures related to hydrology and water quality are included.**

In the fourth complete sentence in the right-hand column, the first two words are deleted. This sentence thus states:

- **Three measures apply to all Alternatives, and involve the investigation of potential groundwater contamination prior to site development, use of corrosion-resistant pipes and underground storage tanks, and installation of railings and warning signs to discourage direct contact with water in China Basin Channel.**

Comment

As a mitigation feature, EIR suggests [on p. VI.L.39 (Toxic problems)] that "To protect the public from health hazards posed by exposure to water in China Basin Channel, install railings and barriers to restrict access to the channel. Place multi-lingual explanation and warning signs along the channel explaining potential health consequences of water contact or eating fish caught in the channel." Unless efforts are made throughout the Mission Bay Project to clean-up the toxics, warning signs will have to be placed throughout the entire development. This EIR is really, useless without a thorough

understanding of the toxics present and clearly presented mitigation proposals. (Toby Levine, Mission Creek Conservancy)

Response

Mitigation Measure L.14, on p. VI.L.39 of Volume Two, which suggests that warning signs, railings and barriers be placed along China Basin Channel, refers to potential health hazards due to overflows of untreated sewage into the channel during wet weather, as a result of leaks caused by accidents or emergencies, such as earthquakes. Such overflows cause temporary contamination of the channel by raw sewage unsuitable for human contact. The first sentence of Mitigation Measure L.14 is revised, as follows:

- **To protect the public from health hazards posed by exposure to water in China Basin Channel following wet-weather sewage overflows or leaks caused by accidents or emergencies, such as earthquakes, install railings and barriers to restrict access to the channel.**

The issue of overall site testing or phased testing for toxic wastes is discussed in XV.L Hazardous Wastes, pp. XV.L.3-XV.L.11. Hazardous wastes are discussed further in the Responses on pp. XV.L.11-XV.L.13, and pp. XV.L.17-XV.L.18.

NOTES - Hydrology and Water Quality

- /1/ Kenneth J. Theisen, Water Resources Control Engineer, California Regional Water Quality Control Board, San Francisco Bay Region, telephone conversation, February 1, 1989.
- /2/ Dean Smith, Manager of Regulatory Permit Program, U.S. Army Corps of Engineers, telephone conversation, January 31, 1989.
- /3/ California Regional Water Quality Control Board, San Francisco Bay Region, Tentative Resolution No. 89, "Policy for the Regulation of Dredged Sediment Disposal in the San Francisco Bay Region."
- /4/ Robert Feather, Waste Management Engineer, Site Mitigation Division, Toxic Substances Control Division, Region 2, California Department of Health Services, telephone conversation, July 17, 1989.
- /5/ California Administrative Code, Title 26, Section 22-66900, Land Disposal Regulations.

- /6/ Code of Federal Regulations, 40 CFR, Chapter I, Part 264.90, Subpart F (July 1, 1987 Edition), Environmental Protection Agency, Releases From Solid Waste Management Units.
- /7/ San Francisco Bay Conservation and Development Commission, "Staff Recommendation on Bay Plan Amendment No. 3-88 Concerning Sea Level Rise in the Bay," December 1988.

STAFF-INITIATED TEXT CHANGES FOR HYDROLOGY AND WATER QUALITY

The following staff-initiated revisions are made to the Hydrology and Water Quality subchapters and appendix in the Mission Bay Draft EIR.

Volume One - Chapter I. Executive Summary

On p. I.4, left-hand column, the third sentence under "Hydrology & Water Quality" is revised to state:

- Dredging of the channel under Alternative A would temporarily affect water quality at the dredge site, and, if Bay or ocean disposal were selected, at the disposal site.

Volume One - Chapter II. Highlights & Conclusions (Hydrology & Water Quality)

On p. II.82, the following is added to the first paragraph, left-hand column, after the third sentence:

- Dredging of the channel under Alternative A would temporarily affect water quality at the dredge site, and, if Bay or ocean disposal were selected, at the disposal site.

On p. II.82, the first sentence of the third paragraph in the right-hand column is revised to state:

- Dredging of 45,000 cubic yards of sediment from China Basin Channel proposed in Alternative A would temporarily affect water quality at the dredge site, and, if Bay or ocean disposal were selected, at the disposal site.

On p. II.87, "to improve its navigability" is deleted from the first sentence of the second paragraph under "Aquatic Life," in the right-hand column. The sentence thus states:

- Alternative A would dredge China Basin Channel.

On p. II.98, the first sentence of the first full paragraph in the left-hand column is changed and the phrase "to improve its navigability" is deleted from the end of the sentence. As revised, this sentence states:

- Alternative A assumes initial dredging of 45,000 cubic yards of sediment from China Basin Channel.

Volume Two - VI.L. Hydrology and Water Quality

An addition is made to footnote /d/ in Table VI.L.1 on p. VI.L.17, as follows. (Urban Stormwater Hydrology is underlined in the EIR. The underline beneath this title in the following change therefore does not indicate a revision.)

- /d/ C = Coefficient of runoff. Coefficients were obtained from City Subdivision Regulations, the Clean Water Program, and "Desk-Top Methods for Urban Stormwater Calculation" by David Kibler in Urban Stormwater Hydrology. See Appendix J. Hydrology and Water Quality, p. XIV.J.3.

The first paragraph on p. VI.L.24, which follows "Water Quality Effects of Wet Dredging," is revised and the first and fifth sentences are deleted. As revised, this paragraph, in its entirety, states:

- Approximately 45,000 cubic yards of material would be wet-dredged from the channel in the initial phase of development under Alternative A./24/ Installation of T-walls to improve the appearance of the edges of the channel would require dry-dredging of an additional 85,000 cubic yards. The dredging plans have not been drawn; but it is likely that material would be removed from the north side of the channel near Fifth Street, where a mound of sediments has developed on the channel bottom. The dredging activity would last approximately two months. Additional maintenance dredging could be performed in the future; it is estimated by the project engineer that dredging would not occur more frequently than once in every ten years. Most dredging would be done from shore with a dragline but some could require the use of a dredge rig in the channel./24/ Dredging and disposal of dredge materials are considered one process. A permit is required, as discussed below under Regulation of Dredge Spoils Disposal.

XV. Summary of Comments and Responses
J. Hydrology and Water Quality

An acronym is added to the sentence that introduces the quotation on p. VI.L.26, as follows:

- **The Bay Conservation and Development Commission (BCDC) Bay Plan states the policy that:**

The last sentence of note /24/, on p. VI.L.42, is deleted. This note thus states:

- **/24/ R.W. Barton, President, KCA Engineers, telephone conversations, July 16 and July 20, 1987.**

Volume Three - Appendix J. Hydrology and Water Quality

One of the years in the source cited at the bottom of Table XIV.J.1, on p. XIV.J.2, is changed, as follows. (Water Quality Control Plan is underlined in the EIR. The underline beneath this title in the following change therefore does not indicate a revision.)

- **SOURCE: San Francisco Bay Regional Water Quality Control Board, Water Quality Control Plan, San Francisco Bay Basin, 1982, and Amendments, 1987.**

K. VEGETATION AND WILDLIFE

HABITAT

Comment

... Regarding the plants and animals, the Environmental Impact Report does state some of the negative impacts that could occur if the Mission Bay project is built. But I'm afraid that it minimizes the importance of the wildlife which is now present on the site, and it glosses over the impact that the encroaching development could have. It also inadequately discusses the relevant policies that should be mentioned in the setting. (Ruth Gravanis)

Response

The water-dependent species present in the Project Area are common to the Bay margins, and the site does not provide any special conditions that are notably advantageous to those species. The site does meet at least some habitat needs of the observed species for at least some periods, but given the overall magnitude of the anticipated impacts, a detailed description of existing and possible needs of each species is not considered necessary. As reported in the EIR, the estuarine and terrestrial habitats are mostly degraded (see p. VI.M.1 of Volume Two) and the shoreline habitat (see p. VI.M.2 of Volume Two) is very limited in extent. From a regional wildlife management perspective, the existing Project Area provides minimal support for wildlife and is not capable of sustaining significant populations of the species. Much of the Project Area is heavily disturbed and supports low numbers of species found on similar ruderal (i.e., growing in waste places or on rubbish) sites throughout the Bay Area. These large "upland" parts of the Project Area, with their fill, disturbance and abandoned structures, provide some but limited habitat for opportunistic mammals, feral species, and possibly some foraging raptors. It is highly unlikely that additional data collection would alter that basic conclusion.

At issue is whether the developments proposed under Alternatives A and N would cause a significant impact on wildlife. It is the judgement of the EIR preparers that, from a wildlife management perspective, the potential displacement of the resident species, primarily the birds, does not constitute a significant effect.

While some individuals of given species may be displaced, it is by no means certain that displacement would result in their mortality, and it certainly would not jeopardize the viability of the populations of those species in the region. In sum, the impacts may be regarded as cumulative, but insignificant, from a wildlife management perspective. The real significance of the impact rests more in the potential loss of the enjoyment afforded to wildlife observers - which is an aesthetic or recreational impact rather than a wildlife impact.

The preceding considerations do not lessen the need to take care that existing wildlife individuals are not unnecessarily injured or that some habitat be provided for them on-site. By virtue of its location along the Bay and channel, the Project Area has potential to support wildlife habitat. Alternative B and Variant 11 provide a response to that potential. (Variant 11 [EIR Hearing Proposal] is discussed in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.) It is recommended that, if the City and project sponsor decide to pursue wetlands, some of the studies suggested by the commenter on needs of the marine mammals, fish and birds be undertaken in support of a wetland development plan.

The EIR notes an area of open water aquatic habitat in China Basin Channel and an extremely narrow and discontinuous wetland strip along the channel edge, mostly of pickleweed. This area in and about the channel and the channel itself is the most significant wildlife habitat in the Project Area.

The EIR documents some of the wildlife use along this channel and its shores. Wildlife surveys indicate a wide range of species present, but in low numbers. Bird species with the highest counts included aquatic species such as seagulls and sea ducks, with the notable presence of foraging egrets and black-crowned night herons. Some herons and egrets appear to be year-round users of the area.

Sampling and species data collected by Environmental Science Associates, Inc. (ESA) and other authors, and presented in the EIR, are adequate for the needs of the assessment, and provide a good indication of the range of plant, bird, mammal, and aquatic species present and possible impacts. Highly detailed surveys would be appropriate only for habitats of exceptional or distinctive quality. In this respect, while China

Basin Channel is notable locally, it is similar to many degraded open water habitats around the industrialized margins of the Bay. Because wildlife conditions appear to have improved in the channel, some changes in species composition from those observed earlier are possible.

Comment

Vol. II, p. VI.M.1 -- Vegetation and Wildlife: Setting. The Setting does not adequately describe the wildlife-related aspects of the project area's history. While the David Chavez report is mentioned, it is not clear whether the reference actually incorporates the "Cultural Resources Evaluation" into the EIR itself. The Chavez paper, pp. 16-38, should be made a part of the Setting for Vegetation and Wildlife as well as for Cultural Resources because it documents some of the historic presence of wildlife on the site, including evidence of a commercial fishery as late as the 1850s (a Chinese fishing village was located where Mission Creek emptied into the Bay).

In addition to the mussels, salmon and seals mentioned by Chavez as being used by the Ohlone, a complete list of flora and fauna of Mission Bay and its marshes should be developed. The list would probably include: silver salmon, steelhead, halibut, starry flounder, chub, clapper rails, Peregrine falcon, Canada geese, salt marsh harvest mouse, native oyster, blue mud shrimp, bent-nose clam, to name only a few.

Pages 2-5 of Vanished Waters: A History of San Francisco's Mission Bay by Nancy Olmsted should be made part of the EIR for its record of plant and animal life. (Ruth Gravanis)

Response

The commenter appears to request a complete list of flora and fauna that were present in Mission Bay at the time of the Ohlone Indians. Such a summary of species existing in the former Mission Bay marsh or a food web for the whole Bay Area would provide an interesting context for the project but would not necessarily improve the effectiveness of the resource inventory for impact evaluation. The early fishing industry and wildlife conditions reported by Chavez and Olmsted provide interesting information about early conditions of the site. "Cultural Resources Evaluation for the Mission Bay Project, San Francisco, California," prepared by David Chavez & Associates for ESA in December 1987, is a

background document for the EIR and, as such, is part of the environmental record. The Olmsted study, Vanished Waters: A History of San Francisco's Mission Bay, was used in preparation of both the EIR and the cultural resources study by David Chavez & Associates.

All the species common to San Francisco Bay marshes probably were present in the original embayment. Many of those species no longer are present, e.g., the salt marsh harvest mouse, and do not appear to have been present for many decades.

Comments

Vol. 2, [p.]VI.M.1-Setting. The statement that the filling which took place in the late 1800's reduced the habitat to the channel, "as it currently exists," is not true. The habitat has been undergoing continuous change since the filling occurred. Salicornia, an important indicator of wetland habitat, has established itself on the channel banks over time. Bird life, absent for years, has been steadily increasing in number and diversity. It is essential to note this trend and the likelihood that the area's wildlife values would continue to increase if the channel were left alone. (Toby Levine, Mission Creek Conservancy)

The Environmental Impact Report states that when Mission Bay was filled in the 1880's, the channel was left pretty much the way it is today. That's not true. It was a terrible open sewer at the time. There was no wildlife at all. As a result of the reduction in the raw overflows of sewage into the channel and as a result of the natural healing power of the bay, the wildlife has been steadily returning. The trend of that return of wildlife is totally ignored in the EIR. (Ruth Gravanis)

Response

The statement in the EIR appears to have been interpreted very literally by the commenters. It is evident from the discussion in the EIR that changes in vegetation, as well as in bottom configuration of the channel and water quality, have occurred since the filling of the former inlet in the late 1800's. The EIR intended to convey the basic point that the overall character of the habitat of Mission Bay was substantially altered by that filling and has remained so ever since. It is recognized that changes have occurred over the intervening decades, but these have been minor compared to the filling of the original embayment.

XV. Summary of Comments and Responses

K. Vegetation and Wildlife

Given the major sewer stormwater overflow outfall at the head of the channel, the houseboats and other boats, general condition of the channel and shore areas, presence of degraded water and sediments, and abundance of human activity, limited reestablishment potential exists for native species of vegetation and wildlife. In sum, it is possible that about as much reestablishment of wildlife has occurred as is likely to ever occur without a major alteration of land uses and environment, such as that suggested in Alternative B.

The modifications given below are made to the text of Volume One.

On p. II.82, left-hand column, the first sentence of the first paragraph under the heading "China Basin Channel" is revised to end after "Mission Bay." The last clause of this sentence is revised and incorporated into a new second sentence. The first two sentences of this paragraph thus state:

- **China Basin Channel is the last remnant of the original Mission Bay. While Mission Bay over 100 years ago was a shallow extension of San Francisco Bay with a rich mixture of tidal flats, salt marsh, and sloughs, very little remains today.**

On p. II.83, the caption to Figure II.57 is replaced with the following:

- **While Mission Bay over 100 years ago was a shallow extension of San Francisco Bay with a rich mixture of tidal flats, salt marsh, and sloughs, only China Basin Channel remains today.**

On p. II.86, left-hand column, the following sentence is inserted at the end of the first paragraph under the heading "Wetlands":

- **Only minor amounts of wetland exist in the Project Area in the form of an intermittent pickleweed fringe along China Basin Channel.**

A new paragraph is added to p. II.87, to follow the first paragraph in the left-hand column:

- **The open water habitat of China Basin Channel, while contaminated by occasional sewer overflows, supports a variety of foraging water birds. Shoreline habitat along the channel provides feeding areas for wading birds, such as herons and egrets, and shorebirds, such as sandpipers. Few, if any, of the birds nest in the area. Large mammals, such as the California sea lion and harbor**

seal, occasionally swim in the channel.

Comments

V.I.M.2 - Wildlife. *The "lack of terrestrial vegetation for food and cover" is a result of deliberate removal by the project sponsor. Jackrabbits were seen in the area as recently as 3 years ago. (Toby Levine, Mission Creek Conservancy)*

One statement that really bugged me was that the lack of suitable cover limits the terrestrial mammals. Until four years ago, jack rabbits were seen on the site. The landowner removed the vegetative cover and that's why the jack rabbits are no longer there.... (Ruth Gravanis)

Response

Although the information provided by the commenter may be correct, the Setting sections of Chapter VI. Environmental Setting, Impact and Mitigation, in Volume Two of the EIR, accurately reflect conditions existing in 1985, the base analysis year for the EIR. Maintenance of wildlife habitat has not been a concern of existing businesses in the Project Area, and has not been requested by the City or other public agencies, as the area is generally an industrial zone.

Comment

The fourth paragraph [on p. VI.M.7] should state the possible impacts of any fertilizers, pesticides or herbicides to be used in the landscaped areas. Otherwise, the alternatives should include express prohibitions on the use of such chemicals. (Toby Levine, Mission Creek Conservancy)

Response

The following new mitigation measure, M.3a, is added to "Terrestrial and Wetland Vegetation/Wildlife" on p. VI.M.21 of Volume Two:

- **Alternatives A, B, N, - To the maximum extent practicable, use organic controls on pests and weeds in terrestrial landscaping. Avoid use of pesticides and herbicides known to create adverse effects on birds. Prepare a list of chemical pesticides and herbicides to be avoided by park personnel and property owners of Mission Bay.**

A new sentence is added after the second sentence in the paragraph after "Mitigation Measures" on p. II.88, right-hand column, of Volume One:

- Two measures, also applicable to all Alternatives, would limit the use of pesticides and herbicides to the extent possible and develop wading bird and shorebird habitat along the channel equal to or greater than the existing habitat.

(A new mitigation measure dealing with wading bird and shorebird habitat is discussed in the following Response.)

Potential impacts on wetlands related to declines in water quality, including surface run-off contaminated by pesticides, fertilizers and residues, are covered in Mitigation Measure L.11 on p. VI.L.38 of Volume Two. If this mitigation measure is implemented, most of this runoff would be collected in the City's combined sewer/stormwater system. Continued impacts from treatment plant outfalls on the China Basin Channel would occur in the future, although the number of overflows into the channel would decrease to about ten events per year due to improvements installed by the Clean Water Program.

Comments

Objective 8 - Ensure the protection of plant and animal life in the City. "The ecological balance of wildlife and plant communities should be protected against further encroachments." Alternative A is clearly inconsistent with the Environmental Protection Element in that it allows encroachment onto, and destruction of, habitat areas without providing any alternate sites. The endangered Brown Pelican would be less likely to visit . . .

Vol. 2, [p.JVLA.18 (environmental quality of the Bay). One of the goals of the S.F. Bay Seaport Plan is for city and county governments to maintain or improve the environmental quality of San Francisco Bay and its environs. If, under alternative Plan A, the birds that have begun to feed along Mission Creek are evicted, and the herring spawning area is destroyed or damaged, then how is that goal to be implemented? This needs to be considered in the Draft EIR. (Toby Levine, Mission Creek Conservancy)

We would also point out that the existing habitat along China Basin Channel, although degraded, is a tidal wetland with significant

colonies of Common Pickleweed (*Salicornia virginica*). Filling or modification of this wetland must be mitigated, subject to the regulatory authority of the Army Corps of Engineers under the Clean Water Act. Of the three alternatives presented in the DEIR, only Alternative B would mitigate habitat loss at Mission Bay, by creating a tidal salt marsh that would serve as enhanced habitat for a variety of birds and animals. . . . (Scott Morrical, Golden Gate Audubon Society)

Response

On p. VI.M.8 and p. VI.M.13 of Volume Two, the EIR acknowledges that displacement of individuals of some species, notably herons and egrets, would occur under Alternatives A and N. Given the extent of wading bird and shorebird habitat at present in the Project Area, the impact is adverse but insignificant with regard to wildlife populations and wildlife management considerations. From these and other Comments, the displacement of individual birds is a concern to some people, and, in a literal sense, the displacement does constitute a conflict with the policies noted by the commenters. For the latter reasons, the following new mitigation measure, M.5f, is added to "Terrestrial and Wetland Vegetation/Wildlife" on p. VI.M.22 of Volume Two:

- Alternatives A, B, N - Develop wading bird and shorebird habitat along the channel that is equivalent to or greater than the existing areal extent of that habitat. Planting in the area would need to include pickleweed (*Salicornia virginica*) and monitoring by a biologist for at least seven years. The biologist would report to the San Francisco Office of Environmental Review yearly on the amount of cover the plants achieve. It is expected that in three years, the pickleweed would attain a cover of more than 50%. This means that in randomly selected sample areas, the plant canopy would cover more than 50% of the bare mud.

The Volume One text change that corresponds to this new mitigation measure is shown in the previous Response.

The following new mitigation measure, M.5g, is also added to p. VI.M.22:

- Alternatives A, B, N, - To ensure minimal displacement of individual birds, phase development of wetlands under Alternative B and habitat under Alternatives A, B and N so that existing individual birds would have places to use on-site while wetlands are being developed.

XV. Summary of Comments and Responses

K. Vegetation and Wildlife

A new sentence is added after the fourth sentence in the paragraph under "Mitigation Measures," in the right-hand column on p. II.88 of Volume One:

- **One measure would phase the development of wetlands in Alternative B to ensure minimal displacement of birds.**

This sentence is also added to p. II.100 of Volume One, at the end of the paragraph in the right-hand column ("Mitigation Measures" under "Construction").

See also the text change to p. VI.M.7 of Volume Two, given on p. XV.K.10.

While the Mission Bay project is an encroachment of development on a wildlife habitat in the Bay Area, several considerations should put this issue in perspective. Conditions along the urbanized lands north and south of the Project Area are disturbed, and these lands contain limited habitats. In other words, encroachment has already occurred in this region. Alternative B, with its proposed wetlands, would to some degree reverse this trend by providing semi-natural habitats.

The conformance of Alternative A with several City plans, i.e., the Environmental Protection Element and the San Francisco Bay Seaport Plan, policy of the state of California, and regulatory guidelines of the U.S. Army Corps of Engineers has been questioned. For discussion of the Seaport Plan, see the Responses under "Port of San Francisco" beginning on p. XV.A.1 in this volume, and p. VI.A.18, p. VI.A.23 and pp. VI.A.53-VI.A.57 of Volume Two.

The following text is added before "Initial Phase of Development" on p. VI.M.9 of Volume Two, beginning with a new paragraph:

- **The U.S. Army Corps of Engineers (COE) automatically has jurisdiction, and thus must permit actions, up to Mean High Water (MHW) level based on Section 10 of the Rivers and Harbors Act as this defines the upper edge of "Navigable Waters." The COE also takes jurisdiction in "Waters of the U.S.," which includes coastal wetlands, under Section 404 of the Clean Water Act.**

The portions of the channel banks that support pickleweed and are saturated with tidal water meet the requirements of the U.S. Army Corps' Wetlands Delineation Manual.^{/22a/}

Channel development that involves removal of vegetation and new ripraping would require Corps Section 10 and Section 404 permits (see Table VLA.4 on p. VLA.69, and text on pp. VLA.70-VLA.71). Channel dredging also would require a Section 404 permit. During the Corps permitting procedure, the Corps is required to consult with the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and other state and federal agencies including the Environmental Protection Agency; in this way, these two non-regulatory agencies would have a role in directing the conditions of regulatory permits. BCDC has direct regulatory permitting power along the channel.

The removal of the intermittent, narrow band of pickleweed, however marginal it may be in habitat value, is not in conformance with the Wetlands Resources Policy of the California Fish and Game Commission /22b/, Finding III, which states "projects which impact wetlands are damaging to fish and wildlife resources if they result in a net loss of wetland acreage or wetland habitat value."/22c/ The action is, therefore, not in conformance with the San Francisco Master Plan, Environmental Protection Element, Objective 8, "to ensure the protection of plant and animal life in the City," Policy 1, "cooperate with and otherwise support the California Department of Fish and Game and its animal protection programs," and Policy 2, "protect the habitats of known plant and animal species that require a relatively natural environment."/22d/

The following four new notes are added after note /22/ on p. VI.M.27 of Volume Two:

- ^{/22a/} The definition of wetlands from the Corps of Engineers (COE) (Federal Register 1982) and the Environmental Protection Agency (EPA) (Federal Register 1980) is "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." The three characteristics that the COE uses as diagnostic of wetlands are: 1) vegetation - prevalent vegetation consists of species of plants placed by the U.S. Fish and Wildlife Service (USFWS), COE, EPA and the Soil Conservation Service (SCS) on the "National List of Plants that Occur in

"Wetlands," published by the USFWS. Pickleweed is not only on the list but is listed as "obligate," i.e., a plant that occurs in wetlands with a frequency greater than 99%; 2) hydric soils - soils are flooded or saturated for a long enough period of time to develop anaerobic conditions; and 3) hydrology - soils are regularly inundated or saturated.

- /22b/ This policy was developed in response to Senate Concurrent Resolution 28, in which the state legislature, in recognition of the importance of wetlands, indicates its intent "to preserve, protect, restore and enhance California's wetlands and the multiple resources which depend upon them for the benefit of the people of the State." The legislature further declared its desire that wetland habitat acreage be increased by 50% by the year 2000.
- /22c/ Don Lollock, Chief, Environmental Services Division, California Department of Fish and Game, "The Wetlands Policy - Interpretation and Implementation," presented to the Association of Environmental Professionals Conference, May 6, 1988, Sacramento, California.
- /22d/ San Francisco Department of City Planning, San Francisco Master Plan, Environmental Protection Element, adopted July 9, 1987, pp. I.6.10-I.6.11.

Comments

The first paragraph [on p. VI.M.7] should state the relevant state and federal policies:

- a. Senate Concurrent Resolution #28, which calls for a 50% increase in the bay's wetlands by 2000, and;
- b. The Environmental Protection Agency is charged with protecting wetland resources and the National Wetlands Policy Forum is currently urging the adoption of specific requirements.
- c. Any alteration of the channel's banks would come under Section 404 of the Clean Water Act.
- d. Section 10 of the Rivers and Harbors Act may also apply.

If SCR #28 is viewed as not applying to Mission Bay, by what criteria is it exempted? How does the Mission Bay project impact the City's ability to participate in the implementation of SCR #28?... (Toby Levine, Mission Creek Conservancy)

As to the policies, there is a statement that there are no state policies relevant to Mission Bay. I would like to remind you of Senate Concurrent Resolution No. 28 which calls for [a] 50% increase by 1990 in the wetlands in the state. I think this EIR should talk about how the Mission Bay development would impact on the state's ability to fulfill that policy if Mission Bay were built without any restoration because the restoration opportunities are so very limited. (Ruth Gravanis)

Department of Fish and Game personnel have reviewed the Draft EIR for Mission Bay, and we believe Alternative B would optimize conditions for fish and wildlife. The Department has been charged, under Senate Concurrent Resolution 28, with the responsibility of increasing the amount of wetlands in the State by 50 percent by the year 2000. Alternative B, by creating 33.8 acres of wetlands, not only moves the Department closer to its goal, but provides wetland resources in an area where few such resources now exist. (Pete Bontadelli, California Department of Fish and Game)

Response

Senate Concurrent Resolution 28, passed in 1979 states that it is the intent of the legislature "to preserve, protect, restore and enhance California's wetlands and the multiple resources which depend upon them for the benefit of the people of the State." Its application has been studied primarily in the context of the California inland wetlands that were not protected by the McAtee-Petrus Act of 1965, which provided for the establishment of the San Francisco Bay Conservation and Development Commission (BCDC).

The resolution, however, is broad and applies equally to salt wetlands in San Francisco Bay, Central Valley wetlands, vernal pools, and riparian systems. All state agencies are obligated to take the resolution into consideration in their application of the California Environmental Quality Act (CEQA), the National Environmental Protection Act, the California Coastal Act, the Clean Water Act, and the San Francisco Bay Plan. This includes consultation with the Army Corps that occurs in connection with permit applications. Plans that increase wetlands will be favored./1/

It has not been determined that the Mission Bay project is "exempt" from Senate Concurrent Resolution 28. Wetlands proposed in Alternative B or Variant 11 would address this

issue. Variant 11 (EIR Hearing Proposal) is discussed in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.

As shown in Table VI.A.4, on p. VI.A.69 of Volume Two, VI.A. Public Plans, Policies, and Permits, and in text changes for p. VI.M.9, given in the Response on pp. XV.K.4-VI.K.6, Alternative A would require a Section 404 Corps permit for the channel dredging, and the reconfiguration of channel banks would require Section 10 and Section 404 permits. It is expected that Alternatives B and N and Variant 11 would not require Section 10 permits because the channel would not be dredged and the wetlands would be created by dry excavation in Alternative B and in Variant 11. They would, however, require Section 404 permits for any channel bank alterations resulting from the placement of fill (gabions). See also the previous Response, on pp. XV.K.4-XV.K.6.

WILDLIFE

Comments

The DEIR underestimates both the numbers and the species diversity of birds that currently use the China Basin Channel and other portions of the Mission Bay waterfront. As a result, the DEIR underestimates the effects of development on wildlife. In this regard, the primary flaw in the DEIR is the lack of adequate bird census data. The data contained in the DEIR was collected on only three days within a single one-month period (February through March, 1986). Additional bird lists provided by Alan Hopkins were recorded only during the fall season. Since many of the bird species that use Mission Bay are migratory, this census data does not give a true picture of the diversity and abundance of bird life that occurs annually within the project area. A year-round study of Mission Bay bird life is needed. The DEIR states that the number of resident bird species is not known. In fact, Great Egret, Snowy Egret, Great Blue Heron, and Black-crowned Night Heron are present in the project area throughout the year. The DEIR incorrectly states that the California Brown Pelican (*Pelecanus occidentalis*) is the only federally endangered species which occurs within the project area. In fact, China Basin Channel and other waterfront areas are foraging grounds for the endangered Peregrine Falcon (*Falco peregrinus*), which now breeds in downtown San Francisco. Finally, the DEIR fails to point out that the clearing of terrestrial vegetation which has taken place in recent years

is in large part responsible for the low diversity of land birds and animals at the project site. The potential habitat for birds and animals at Mission Bay is much greater than is indicated, since censusing was conducted after large-scale clearing of upland vegetation had occurred. (Scott Morrical, Golden Gate Audubon Society)

The EIR is grossly inadequate in assessing the importance of Mission Creek Channel to wildlife. A year-round census should be taken, since different species use the channel at different times of the year. The wildlife information in the EIR is highly suspect because the bird list provided (Appendices, Table XIV.K.1) is amateurish (being out of taxonomic order) and it lists some species as typical of the San Francisco Bay waterfront which are actually dabbling ducks (which prefer a different habitat). There are also several species which would be expected to use a restored Mission Bay marsh which are missing from the list.

The bird list should be updated to include the following species observed by Alan Hopkins subsequent to his census conducted for the MCC:

- Barn swallow - Seen regularly in summer months
- Caspian tern - Seen regularly in summer months
- Red-winged blackbird
- Anna's hummingbird
- Green-backed heron
- American robin. . .

The EIR fails to note that many of the birds using Mission Creek are winter residents of San Francisco Bay. (Toby Levine, Mission Creek Conservancy)

The bird census that was done, only three days, of course, couldn't possibly adequately tell us what the wildlife was. I'm pleased that Alan Hopkins' three-month inventory was included. A full year census really should have been part of the EIR process. In this case, we can't say we didn't have time. Alan Hopkins has since observed six more species. Two of them, the barn swallow and the caspian tern, were regular summer visitors all summer long. (Ruth Gravanis)

Response

Year-round bird surveys were judged to be unnecessary on the basis that the major impacts of all Alternatives fall in areas of upland that do not at present support a significant number of

XV. Summary of Comments and Responses

K. Vegetation and Wildlife

mammals, reptiles or birds. This means that the site currently does not provide habitat in the form of food and nesting sites, although it does provide widespread resting areas.

American peregrine falcons are not regarded as a species of concern in the case of China Basin Channel. These birds travel large distances to hunt, and prefer substantial marshland areas interspersed with water bodies. Wetlands developed as part of Alternative B would provide more areas of suitable habitat in China Basin Channel.

The channel open water areas are capable of providing resting and limited feeding areas for winter-resident water birds such as grebes, pelicans and cormorants, and for winter visitors such as surf scoters. Alternative A would have a transitory impact because of dredging, but no long-term negative impacts are predicted as a result of any of the Alternatives. A positive impact may result from the small increase in net open water which would result from Alternative B and Variant 11. Variant 11 (EIR Hearing Proposal) is discussed in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.

The pickleweed-covered channel edge would be removed in Alternative A, and it is true that fall and winter surveys might have given the exact number of fall- and winter-resident egrets and herons whose feeding grounds would be lost. On the basis of the date of Alan Hopkins' observation, however, it is likely that the numbers of these birds would be less in the spring when most of them would be mating, nesting and raising chicks at one of the regional rookeries.

Given these conditions, the gathering of detailed bird counts on a year-round basis is not likely to result in a change in the conclusions in the EIR.

The species lists in Table XIV.K.1 on pp. XIV.K.1-XIV.K.3, in Volume Three, Appendix K, were arranged in groups based on generalized types of birds to make the information more available to the lay reader. The lists are footnoted, and it may be observed that the "dabbling ducks" were listed citing CH₂M Hill as the source of the report. Species of this subfamily of ducks will use any shallow salt, brackish or freshwater ponds or marshes for feeding and may have been attracted to the site by large puddles of standing water.

Table XIV.K.1 is revised in the following way. The position of the heading "Shorebirds" is moved from immediately preceding "Spotted

sandpiper" on p. XIV.K.2 to immediately preceding "Killdeer" on p. XIV.K.1. The heading "Waterfowl (continued)" on p. XIV.K.2 is deleted. Also, additional species reported by Mr. Hopkins are added to this table. Under "Herons," p. XIV.K.1, the following species is added after "black-crowned night heron":

- Common name: **Green-backed heron/c/**
Scientific name: ***Butorides virescens***
High count: **NA**

Under "Gulls and Terns," p. XIV.K.2, the following species is added after "Forster's tern":

- Common name: **Caspian tern/e/**
Scientific name: ***Sterna caspia***
High count: **NA**

Under "Songbirds," p. XIV.K.3, the following species are added after "American goldfinch":

- Common name: **Barn swallow/e/**
Scientific name: ***Hirundo rustica***
High count: **NA**
- Common name: **Red-winged blackbird/c/**
Scientific name: ***Agelaius phoeniceus***
High count: **NA**
- Common name: **Anna's hummingbird/c/**
Scientific name: ***Calypte anna***
High count: **NA**
- Common name: **American robin/c/**
Scientific name: ***Turdus migratorius***
High count: **NA**

The following is added to this table to precede footnote /a/:

- **NA - Not available.**

The following new footnote, referenced after each of the new entries, is also added to this table:

- **/c/ - Observed by Alan Hopkins subsequent to his census conducted for the Mission Creek Conservancy.**

In Volume Two, the fourth and fifth sentences in the last paragraph on p. VI.M.2, are changed and new sentences are added, as follows:

- **Snowy egrets, great egrets, great blue herons, and black-crowned night herons are among those species commonly foraging in the area of China Basin Channel at various times and**

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on a year-round basis. Several dozen of these birds may be observed here, but it is unlikely they nest in the area for lack of adequate habitat. Egrets, herons and other water birds have been observed along the channel well beyond Fifth Street. Many of the species noted in the China Basin Channel area were water-related and are migratory and use the area for resting periods of various duration. Others are winter residents that migrate elsewhere for breeding.

Comment

The possible loss of the semi-soft edge of Mission Creek has not been identified, and therefore not mitigated, in Plan A; and furthermore the loss of the wetland under Plan A is not adequately mitigated. There is no plan for ensuring the survival of the existing bird population who currently feed in the Mission Creek Channel. . . .

The EIR should state the importance of Mission Creek as a resting and feeding area for migratory birds. The sheltered nature of the channel makes it a good place for migratory birds to wait out winter storms. . . .

[Vol. 3, p. XIV.K.1, K.2, K.3 (Bird List)] provides an extensive list of birds found in the general area, but most of the birds are found specifically on Mission Creek, since most of the sightings are from Alan Hopkins (Audubon) and from ESA. The part that is impressive is the large number. The question is what will happen if they are not properly provided for in the future. This is not addressed in the DEIR. Furthermore, since the shore and wading birds (egrets, herons, and many others) have no other feeding sites currently in San Francisco they will probably hang around and die from lack of nourishment. The point being that San Francisco has become so "hard edged" that there are few alternatives for shore and wading birds. Rip rap won't do. It covers up feeding areas. Given the tremendous wetland losses throughout the area, it is wrong to assume that there is any "elsewhere" for the wildlife to go to. Mission Creek provides a visible habitat which must be protected or replaced on site.

Regarding the impact on wildlife, it says that the displaced birds -- it acknowledges that some birds may be displaced under Alternative A. Displaced birds would forage in other parts of the Bay Area. What other parts of the Bay Area? The Bay Area has lost so much of its wetlands that we can't assume they are going to find other places to forage.

Remember that Mission Creek is a pretty degraded habitat. If there [were] all kinds of choices that these birds had as to where to feed, they might not even be there in the first place. They might not go elsewhere. They might simply find the conditions so bad that they will stop feeding and certainly stop reproducing. The impacts are greater than are stated.

Several of the birds that are discussed in the EIR are referred to as being migratory when they are actually winter residents. They need that area all winter long.

Also, the importance of Mission Creek to the migratory birds has been downplayed. The migratory birds, as Scott mentioned, must have stopping and feeding places. Mission Creek, because it is a sheltered [tidal] inlet, provides a real haven in the winter storms that can be expected. (Ruth Gravani)

Response

Nearly 5,000 birds have been counted by the four sets of observers. The question of the fate of most of these animals under Alternative A can be answered using information from the EIR.

Alternative A proposes to dredge China Basin Channel initially and then approximately once every ten years (see p. VI.M.16 of Volume Two). This means that during this dredging the water birds would be disturbed but not permanently displaced (see the Volume One text change to p. II.87 given in the Response on pp. XV.K.11-XV.K.12, and the text change to pp. VI.M.8-VI.M.9 of Volume Two given in the Response on pp. XV.K.12-XV.13. The water birds comprise the vast majority of birds counted and include grebes and loons (36 individuals); cormorants and pelicans (65 individuals); diving ducks (58 individuals); and sea ducks (1,259 individuals). Gulls also rest on the water at times, and gulls were the largest group in number of animals. There were 2,790 gulls, most of them Mew gulls who were over-wintering in the area.

Alternative A proposes to remove much of the wetland edge of the channel and replace it with a hard edge (see text changes to p. VI.M.7 of Volume Two, shown on the following page). This impact and its result are discussed in new text changes in the Response on pp. XV.K.4-XV.K.6. This would have impacts on shorebirds (180 individuals) and wading birds, herons and egrets (24 individuals) whose feeding sites would be covered. A new mitigation measure, M.5f, is added to the text on p. VI.M.22

of Volume Two, as also shown in the Response on pp. XV.K.4-XV.K.6. If implemented, Mitigation Measure M.5f would, for all Alternatives, provide habitat of a quality equal to or better than the existing habitat's. Mitigation Measure M.5g, also shown in that Response, is added directly after Mitigation Measure M.5f. If implemented, Mitigation Measure M.5g would provide for the habitat to be replaced before the existing habitat was destroyed.

The species that specifically require the wetland pickleweed and soft-edge habitat at the channel would not likely be able to find other suitable habitat in San Francisco, although it exists elsewhere along the Bay margin.

The herons and egrets that use the pickleweed channel margin and the shorebirds that use the mud and rocks in the Project Area are believed to be small in number. While it is true that shorebird and wading bird habitat has experienced significant decline in the Bay Area, it is by no means certain that existing areas could not accommodate displaced birds from Mission Bay and that mortality is certain. On-site mitigation of habitat losses is a preferred approach, certainly, to displacement and assumed relocation elsewhere in the area.

The only bird referred to in the EIR (see Volume Two, pp. VI.M.1-VI.M.6) as migrating is the brown pelican, which are described as "regular summer migrants to [emphasis added] San Francisco Bay" (see Volume Two, p. VI.M.3). This statement is true although pelicans do not move great distances between breeding areas and their summer-through-winter feeding areas.

All migratory birds move between breeding grounds in the north to over-wintering feeding grounds in the south. Some species stop and over-winter in the San Francisco Bay and others stop only temporarily. Not all members of a species stop in the same area for the winter.

Most waterfowl except mallards and cinnamon teals are migratory so the ducks observed on China Basin Channel are both migratory and winter visitors and may, in fact, be winter residents. The shorebirds are nearly all migratory and winter residents. A few shorebirds like killdeer and black-necked stilt are resident year-round. Herons and egrets are essentially resident but, like the pelicans, they move away to breed in the spring. The other resident birds are the western and pied-billed grebes, the Brandt's cormorant, and possibly the double-crested cormorant, and all of the terrestrial birds except

the white-crowned and golden-crowned sparrows and the palm warbler.

The commenter is correct in stating that China Basin Channel provides important resting areas for migratory birds. However, existing data do not suggest that the channel is an important feeding area for migratory birds.

On p. VI.M.7 of Volume Two, the last two sentences in the second paragraph under "Alternative A" are revised and two new sentences are added, as follows:

- Thus, most existing heron, egret and shorebird feeding sites would be lost. Hard-edge treatment eliminates exposed soft mud and pickleweed which provides feeding areas for wading birds and for shorebirds. It is possible that some displaced individual animals may die. However, that loss of as many as 20 individuals would not present a threat to the survival of any of these species.

On p. VI.M.10 of Volume Two, the first sentence of the last paragraph is revised to state:

- The 13.2 acres of tidal wetlands created by 2000 along China Basin Channel west of Fourth Street (mid-channel site) would contain mudflats, open water and salt marsh, and an island.

The first paragraph on p. VI.M.3 of Volume Two is deleted.

See also the text change to p. VI.M.11 of Volume Two, given on p. XV.K.22.

Comment

The EIR states that mallards and coots would be expected to nest on the island in the restored marsh. But since mallards prefer fresh water and coots build floating nests, it again raises the question of the accuracy of the EIR. Additional wildlife and wetland experts must review this section. (Toby Levine, Mission Creek Conservancy)

Response

It is important to keep in mind that no wetland design exists; the EIR presents conceptual possibilities for the wetland. A goal of the wetland design would be to create diverse

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habitats within the wetland area. There may be one or more islands. Some islands, or at least part of one island, would be at an elevation above the diurnal or seasonal level of submergence by tides, as stipulated in Mitigation Measure M.10 on p. VI.M.24 of Volume Two. The higher portions of the island could have depressions that would contain freshwater or at least brackish water that could support mallards and ducks that prefer that habitat. In any case, mallards and other ducks are commonly seen in estuarine waters, e.g., the lagoons of Foster City. There would also be conditions present in the wetland design to allow coots to nest. Specific objectives for wetlands would have to be further defined were the City to proceed further with the wetland. At present, a wide range of possibilities exists for wetland design, although space limitations would be an important consideration.

Comment

[Vol. 2, p. VI.M.3 (bird counts)] states that "While the number of species that could use the area is relatively large, the actual number of individuals is low," when referring to the bird counts done by MCC and ESA. This is a judgment. Whose? And is it correct? Alan Hopkins spotted 1,240 Surf Scoters at one time. (Toby Levine, Mission Creek Conservancy)

Response

The statement in the EIR is based on an assessment made by ESA biologists. The site is probably used by most of the bird species common to the San Francisco Bay margins. Some of these birds use the site for resting, but it is of limited habitat value to many species for other important life cycle functions such as breeding and feeding. Consequently, the numbers of individuals within a species that can use the site for these other functions is correspondingly low. The large number of surf scoters observed by Mr. Hopkins is not surprising -- they were resting on the water of China Basin Channel -- but it is highly unlikely that the birds use the site for other important habitat functions.

Comment

The presentation of impacts on the birds who currently feed on Mission Creek is ambiguous and misleading. On page II.87, the following

statement is found within the text:

"Foraging by herons and egrets along the channel shoreline would be substantially reduced or eliminated by increased activity near the channel in Alternatives A and N."

This is confirmed by Dr. Michael Josselyn, the Department's Wetland Biological Consultant for Mission Bay in his May 16, 1988 letter to Mr. Bash:

"With less than the Wetland in the Department's Mission Bay Plan -- a Proposal for Citizen Review "the resident population of egrets and herons would probably not remain in the Mission Bay area due to substantial increase in development within and surrounding the China Basin Channel."

Yet, in spite of this expert opinion which is obscured in the text, the caption [for Figure II.59] on page II.87 reads:

"Bird use of the channel would continue under all alternatives."

This caption, at a much more obvious location to the reader who is simply perusing the document is exactly contrary to the . . . statement [in the text on p. II.87], and is misleading on a most significant issue.

If these impressive birds will be removed from Mission Creek without a Wetland included in the Mission Bay Plan, as is apparent from the two expert opinions, then that conclusion should be clearly and boldly stated as a guide to decision-makers, not effectively denied by an ambiguous presentation, as is done on page II.87.

This error, or evasion should be corrected on [the caption for Figure II.59] page II.87 in the Final EIR, not simply corrected in an appendix which may be even more obscure. (Robert Isaacson)

Response

The caption is a general statement about water birds as a group and is consistent with the statement on p. II.87 that the channel would continue to provide feeding and resting habitat for some species. The report also is in agreement with the letter of Dr. Josselyn with respect to herons and egrets.

To provide additional information, the caption to Figure II.59 in Volume One on p. II.87 is changed, as follows:

- China Basin Channel is used by a variety of gulls and waterbirds. That use would continue with Alternatives A and N, and would likely increase with Alternative B. Wading birds, such as herons and egrets, would be displaced by Alternatives A and N, but would likely increase with adjacent wetlands under Alternative B.**

Comment

On page VI.M.9 it states that construction would temporarily disrupt birds in the area. Since the feeding sites would be lost, there is nothing temporary about it. (Toby Levine, Mission Creek Conservancy)

Response

The EIR statement refers to the bird use in the channel, as opposed to that on the channel banks. Disruption in the channel for dredging would be temporary. It is expected that birds would return to the channel shortly after dredging activities end.

Comments

The facts . . . indicate that development at Mission Bay will have a heavy impact on wildlife. Large numbers of birds, including all of Mission Bay's resident herons and egrets, will be displaced from Mission Bay under either Alternative A or Alternative N. Alternative A would directly eliminate bird habitat along China Basin Channel, while Alternative N would allow human encroachment to compromise bird habitat. The beautiful, stately herons and egrets of Mission Bay are a source of enjoyment to many people, and they play an important role in the ecology of San Francisco Bay. It is important that we conserve this resource. Neither Alternative A nor N, however, offers any mitigation for the loss of bird habitat. The DEIR states that birds which are displaced by development at Mission Bay will forage at other sites in San Francisco Bay. This assertion is far too optimistic. Biologists have determined that shorebird and waterfowl habitat in San Francisco Bay is already being used to capacity. Rather than a simple reshuffling of wildlife, the unmitigated loss of habitat at Mission Bay will

instead result in a further erosion of the biological resources of San Francisco Bay. . . . (Scott Morrical, Golden Gate Audubon Society)

Many avian scientists believe that nearby habitat areas are already saturated. Any further losses of habitat value at Mission Creek must be mitigated on site.

The EIR outlines three possible alternatives. Alternative A makes no provision for the continued development and enhancement of wildlife at Mission Creek. (Toby Levine, Mission Creek Conservancy)

Response

A displacement of individual herons and egrets would occur as reported in the EIR, but the impact does not create a "heavy impact" on wildlife or the displaced species. The numbers of herons and egrets that use the site are too few to constitute an "important role in the ecology of San Francisco Bay" and the existing habitat is so limited that it also would not of itself represent a significant loss. The impact, therefore, is more an aesthetic or recreational issue related to the very limited remaining opportunities to observe such species in San Francisco.

Temporary losses of habitat would occur with Alternative N. Permanent losses would occur with Alternative A, from the loss of semi-soft channel edge and installation of gabions and wooden walkways. Some birds would continue to use the open water, but availability of foraging and roosting areas along the shallow edges of the channel would be eliminated. As indicated in Volume Two, p. VI.M.8, herons and egrets would be displaced. The issue of displacement is a complex one. Unless this were a nesting territory (which it is not) many of these birds utilize a variety of available habitats in the Bay Area, of which China Basin Channel is only one. From an ecological perspective, this regional habitat complex may be used to capacity. Displaced individuals such as those at China Basin Channel would likely have opportunities elsewhere, but the overall decline in the limited regional ecological food base from cumulative regional development probably would cause a decline in the long-term productivity of these water birds. Thus, the impacts associated with edge modification along China Basin Channel would contribute to long-term ecological impacts on a regional basis.

In Volume Two, p. VI.M.8, the last sentence of the last paragraph, continuing on to p. VI.M.9, is changed and two new sentences are added, as follows:

- The small number of displaced birds, notably herons and egrets, would likely continue to forage in other parts of the Bay Area. Long-term loss of edge habitat would contribute to some degree cumulatively to similar regional habitat losses and thus to declines in these user bird species. However, there is no evidence, so far, that this decline would endanger the total population of herons and egrets in the Bay region.**

In Volume Two, p. VI.M.9, the third and fourth sentences under "Initial Phase of Development" are revised to state:

- The shoreline of the channel would be developed and most existing shorebird and wading bird feeding sites, including those for egrets and herons, would be lost. Dredging the channel and construction nearby would disrupt birds using open waters during the period of construction.**

AQUATIC ENVIRONMENT

Comment

Paragraph 2 [on p. VI.M.4] mentions that sewage overflows have reduced the value of the aquatic habitat, but fails to mention that the reduction in the number of annual overflows has increased aquatic values. How else to explain the continued increase in the number and diversity of birds? It is inexcusable that the most recent data on fish, benthic organisms and invertebrates is from 1979! Where is the inventory of the mollusks, worms and crustaceans which inhabit the mudflats? Frequent foraging on the mudflats in the vicinity of Fifth Street by Black-crowned night herons and Great egrets indicates the presence of something edible. What is it? An inventory must be conducted of all the biota in the bay's food web before this EIR can be considered complete. The presence of fish-eating birds upstream of Fifth Street indicates that the EIR grossly understates the value of the channel's aquatic habitat. . . . (Toby Levine, Mission Creek Conservancy)

Response

The evidence suggests that the channel is not a

healthy ecosystem by virtue of its hydraulic configuration and the periodic addition of contaminants from sewage overflows. While improvements in water and habitat quality assuredly have occurred because of Clean Water Program improvements, it must be recognized that the channel continues to have significant constraints to wildlife because of periodic poor water quality and benthic sediments. The presence of herons and egrets should not be taken as an indication of good habitat quality, and the food sources which they may be exploiting in the area may, in fact, be contaminated.

Additionally, while the increased number and diversity of birds may be related to Clean Water Program improvements, the correlation may, in fact, be false; that is, the increases could be related to causes totally unrelated to water quality conditions.

The second paragraph on p. VI.M.14 of Volume Two does identify dredging of China Basin Channel as a potential short-term impact on water quality. However, because benthic organisms that live in the sediments of the edges and bottom of China Basin Channel are short-lived and recolonize from swimming larvae, it is unlikely that a local, short-duration action such as dredging would have a long-term impact on the species diversity or number in the population of invertebrate animals in the channel.

As Mission Bay Alternatives would not be expected to have long-term adverse impacts on benthic conditions, even though water quality conditions may have improved somewhat since 1979, no further studies are needed.

Comments

[p. VI.M.3 (California Sea Lions and Harbor Seals). California Sea Lions have already been observed deep into the channel, not just in the area around the mouth. . . . In addition, Harbor Seals are often found at the mouth of the creek. (Toby Levine, Mission Creek Conservancy)]

First of all, going back to the setting. The wildlife inventories that were done are very inadequate. A most astounding example is the fact that the California sea lion wasn't even mentioned. I would like to pass around this photograph of the California sea lion on a houseboat dock. They are seen very frequently. (Ruth Gravanis)

Response

The observations of the commenters are noted, and in Volume Two, p. VI.M.3, the first sentence of the fifth paragraph is revised, as follows. (Phoca vitulina richardii is underlined in the EIR; the underline beneath this name in the following change therefore does not indicate a revision.)

- While no large terrestrial mammals are resident in China Basin Channel, harbor seals (Phoca vitulina richardii) and California sea lions (Zalophus californianus) are regular visitors to the outer reaches of the channel and on occasion can be seen beyond Fifth and Sixth Streets.

On p. II.87 of Volume One, the last sentence of the left-hand column, which continues in the top of the right-hand column, is deleted and replaced with the following:

- Sea lion and seal use of the channel would probably decrease with development because of boating and other human activity.

The second sentence of the top paragraph, right-hand column, on p. II.87, is revised to state:

- Sea lions and seals would probably continue to feed occasionally near the mouth of the channel.

In the first full paragraph on p. VI.M.9 of Volume Two, the first sentence is revised to state:

- Harbor seals and sea lions would not be expected to use the open water habitat provided by China Basin Channel because of disturbance from boating and other human activity.

Comments

The statement [on p. VI.M.6] that "substantial uses of the middle and upper reaches of the channel by herring has not been observed," is simply untrue. Not only have the herring been observed by humans, but certainly by the Brown Pelicans which appear in increasing numbers during the winter herring runs. . . .

[Vol. 3, p. XIV, K.5 (Fish List)] provides a list of the Mission Creek fish. . . . The problem is that the date of the trawl is 1979, 9 years ago. Fish and bird life has changed dramatically in Mission Creek since the Clean Water Program was

inaugurated. A recent update is required. Otherwise we will never understand what we are losing if the wetland is not developed, or if the fish life is not attended to. The additional studies must include upstream areas as well as the mouth of the creek. We need to know specifically . . . what we could possibly gain or lose economically and physically depending on how Mission Bay is developed and whether or not a wetland is provided with regard to the possible enhancement or degradation of the fish habitat. . . .

[p.VI.M.7-9 (negative results of Alt. A)] states that most existing shorebird feeding sites would be lost under Alternative A. Seals would not be expected to use the open water habitat provided by China Basin because of the disturbance from boating and other human activity. No mention is made as to what will happen to the fish in the area. What is the mitigation to this negative result? What will the mitigation be? This is not clearly spelled out and must be done before the DEIR is certified. (Toby Levine, Mission Creek Conservancy)

We also know the fish are there because the birds are there. You wouldn't have 21 pelicans in one day diving into the channel if you didn't have herring for them to feed on. (Ruth Gravanis)

Response

Because of the improvements in the Clean Water Program at the channel, it is likely that water quality conditions have improved and a resultant increase in fish use of the channel would be expected during periods of low wastewater flow when sewage is not present in water. The development of new data on fishes for purposes of impact assessment for the Mission Bay project is unwarranted, however. No significant impact is expected from development if Mitigation Measure M.14, on p. VI.M.25 of Volume Two, is employed, avoiding dredging during herring spawning season. Proposed changes to the channel under Alternative A would not significantly alter aquatic habitat with adverse consequences. To the contrary, the proposed dredging may improve circulation of water in the channel and, therefore, improve aquatic habitat. There is no evidence to suggest that the fishing industry would be in any way affected by development of any of the Alternatives as long as dredging does not occur during spawning season. While some benefits to fish populations might result from wetlands developed under Alternative B or Variant 11, the impact may not

be measurable. (Variant 11 [EIR Hearing Proposal] is described in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.) Improved conditions for brown pelican feeding may also result from Alternative B or Variant 11.

In Volume Two, p. VI.M.6, the last sentence of the first paragraph is revised, as follows. Also, the reference mark for note /16/ is moved up from the end of the sentence.

- The shoreline east of the Project Area is herring spawning habitat /16/; some use of the middle and upper reaches of the China Basin Channel by herring has been observed and reported by local residents.**

The following is added as a new paragraph after the first paragraph on p. VI.M.6 of Volume Two:

- The 0.5- to 1.5-meter-wide pickleweed strip that sporadically occurs along the south side of the channel, where subject to tidal flooding, could provide some habitat for fish spawning (other than herring), but conditions are marginal. Pickleweed edges also are an important feature of large areas of some tidally influenced wetlands.**

Comment

M.14 - The Pacific herring is not the only fish species to be protected. There must be a thorough inventory of all wildlife using Mission Creek Channel along with appropriate life cycle research so that the impacts on all species can be minimized. (Toby Levine, Mission Creek Conservancy)

Response

The detailed research program suggested by the commenter appears unwarranted given the limited level of impact that is anticipated. While such information may be of value in assessing the benefits of the Clean Water Program improvements, it would not be information needed to assess impacts of development in the Mission Bay area. However, if a wetlands concept is carried forward, it is recommended that studies along these lines be conducted for purposes of preparing an optimum wetland design. Construction of a wetland, if included as part of a plan for Mission Bay, would be subject to further environmental review at some point after a design has been proposed.

Comments

The statement of wetland benefits should include the dependence of fish on the salt marsh ecosystem. The role of salt marsh plants in purifying and oxygenating the water should be mentioned. Among the many benefits for humans is the link to the seasons -- observing different species at different times of the year heightens our awareness of the natural rhythms. . . .

Vol. 2 [, p.] VI.M.17 (Environmental Impact of Wetlands). "Wetlands are used extensively as nursery grounds for many commercially and recreationally important fish species, such as topsmelt, northern anchovy, striped bass, and surfperches. Those species are important to the diets of waterfowl and shorebirds. There would be a net benefit to these fisheries if wetlands were established at Mission Bay." Considering that it is on the agenda of various political entities to enhance the fisheries in the bay, then the building of the wetland should be a top environmental consideration. (Toby Levine, Mission Creek Conservancy)

Fish also benefit from wetlands which increase their food supply in the form of invertebrates which live in the salt marshes. Other animals use the salt marshes for habitat, including the endangered salt marsh harvest [mouse]. (Scott Morrical, Golden Gate Audubon Society)

Response

It has been the City's policy to retain and enhance the fisheries industry. To date, much of the fishing industry in San Francisco has focused on capture and processing of Pacific Ocean fishes. In a cumulative sense, wetland development at Mission Bay would enhance habitat and populations of some fish species, such as the herring. However, it is unlikely that a measurable benefit to the fishing industry can be expected to result from wetlands of the size envisioned for Mission Bay. The key benefit would be that wetlands would provide additional protection of important herring spawning beds in the Bay off the channel. It is unlikely that salmon or striped bass would obtain significant use of the wetlands at Mission Bay.

Although there is no evidence of salt marsh harvest mouse presence at the channel, a wetland habitat would support that species. With the closest mouse populations believed to be in the East Bay and North Bay, this is, however, an unlikely future condition.

Comment

Volume [One] should include a brief discussion of the Bay fill impacts of the proposed Owens Street Bridge. In particular, the EIR should provide an estimate of the total amount of surface area of the Mission Creek Channel that would be covered by the bridge, discuss what effects shading from the bridge would have on fish and wildlife resources, and describe the bridge's effects on water circulation and navigation, if any. The Bay Plan calls for mitigation of the impacts of Bay fill. Accordingly, when the Commission has approved roadway bridges in the past, it has usually required the permittees to open new areas to tidal action, restore degraded salt marshes, or take similar measures to offset the detrimental effects on Bay resources of the project. The EIR should discuss how the particular impacts of Owens Street bridge could be mitigated. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

No specific bridge design has been proposed; a two-lane roadway for autos and a separate bridge for MUNI Metro are likely. Because the bridge would cross close to the head of the channel under the I-280 overhead freeway, no impacts on fish or other wildlife would be expected from the Owens Street Bridge. Shading would have a small effect on surface water temperature near the bridge, but this likely would occur only in the uppermost few centimeters of the water column and would have no significant effects. No effects on circulation or navigation are anticipated given the location of the bridges near the head of the channel. As a result, off-site mitigation related to the effects of the Owens Street Bridge are not anticipated to be necessary.

Development of the bridge, however, would be subject to additional environmental review if a plan is approved for Mission Bay. At that time, design details of the bridge would enable a more detailed evaluation of its potential impacts and possible identification of mitigation measures with respect to the concerns raised in the Comment.

Comment

M.18 - The EIR should include mitigations for the loss of fresh water inflows to the Mission Bay Estuary. The tremendous abundance and diversity of wildlife that inhabited the Mission

Bay Estuary (300 acres of Bay and 200 acres of marshland) was partly due to the mixing of saltwater and fresh which occurred at the mouth of Mission Creek, a year-round stream which flowed down from its headwaters on the north slope of Twin Peaks. Because the creek itself has been culverted and diverted into the sewage system, it offers little hope of a freshwater source for the restored wetland. But other possible sources should be thoroughly explored, such as roof runoff. Instead of diverting roof runoff into the sewage system, where it increases the possibility of raw overflows, it could be directed into a settlement pond and then into the wetland.

Because the Mission Bay Project will, in some ways be developed from scratch, it allows us to take advantage of the latest technology and environmental sensitivity. The right experts should be consulted to explore creative mitigation measures to assure that we "do it right". (Toby Levine, Mission Creek Conservancy)

Response

The Mission Bay project is not required by CEQA to provide mitigation for impacts on fresh water inflows that have occurred over the past 100 years. No records of the culverting of Mission Creek exist in the San Francisco Clean Water Program Engineering Department.

The concept for directing roof runoff into a separate drainage collection system could be considered. Construction of a separate collection system would involve dual pipes to collect stormwater separately from roof runoff.

WETLANDS

Comment

M.17 - How will we mitigate the impacts of continued sewage overflows at the Division Street outfall, as mentioned on page VI.M.16? The EIR is incomplete without such mitigation proposals.

One obvious approach is the establishment of marsh plants in the area near the outfall. This may necessitate some reconfiguration of the channel banks to create the gentle slope required by cordgrass. It is common knowledge that marshes can filter pollutants, remove pathogens and supply oxygen. (See "Sewage Treatment Naturally" from World Watch . . .), and San Francisco should look into this inexpensive, effective and environmentally sound solution.

XV. Summary of Comments and Responses

K. Vegetation and Wildlife

. . . [A]ccording to the reports by Michael Josselyn, [Alternative A would] eliminate what progress has been made as a result of the Clean Water Program. (Toby Levine, Mission Creek Conservancy)

Response

Mitigation of sewage overflows is the concern of the San Francisco Clean Water Program. While Mission Bay development can contribute to improvements in water quality in various ways, the problem is fundamentally related to sewer/runoff overflows and poor circulation in the channel. It is not a result of any proposed development in Mission Bay. Alternative A would result in some improvements of the aquatic environment of the channel as a result of dredging which would help to improve water circulation. Creation of a wetland under Alternative B would provide some minor improvement of water quality, but the small size of the wetland would restrict its possibility to bring about significant improvements.

Wetlands can serve as filters and help oxygenate waters, but they have limits on their capacities to do this. If supplied with an immense amount of nutrients, wetlands, which are only transitory successional plant communities, can quickly overgrow and overtake a channel, thereby inhibiting good water circulation. Little is known about how well wetlands can absorb pollutants that are often considered toxic and that may be present in overflows or in the channel sediments. On the whole, wetlands are widely regarded as advantageous to improving water quality conditions, but little reliable information has been collected on how wetlands process pollutants, their tolerances to pollutants or the fates of pollutants in the wetland. For example, some pollutants that might ordinarily remain relatively inert in the sediments may become absorbed by plants in a wetland that become a food source for fish or waterfowl. Concentrations in the food chain may lead to eventual poor health of the wildlife or of the wetland plants themselves. In sum, much more information is needed before marsh planting, as suggested in the Comment, could be identified as a means for completely solving water pollution problems.

Comment

. . . Pickleweed is something that is basic for the ecological chain. If you want to have the whole ecological chain restored in Mission Bay and in

the San Francisco Bay, you need to have the pickleweed because it's there that the shorebirds feed, that the eggs of fish are laid. . . . (Toby Levine, Mission Creek Conservancy)

Response

Pickleweed is recommended for inclusion in the wetland design in Alternative B, as described in the Response on pp. XV.K.19-XV.K.22, and in Mitigation Measure M.11 on p. VI.M.24 of Volume Two.

Comment

One of the things that happened when the developed part of Candlestick occurred is that the wildlife use of the area dropped considerably. Part of the creation of the park that is now at Candlestick involved ripraping over the feeding areas of the birds and the removal of the kind of grassland that the birds were using for cover. It's absolutely essential that a wetland restoration occur at Candlestick to mitigate the wildlife losses on that site.

It is essential in Mission Bay to do the same thing. You can't mitigate off-site. You can't mitigate the possible loss of wetland values on Mission Creek by doing something that we are planning to do anyway in another location.

Also, the restoration at Candlestick is being held up by the fact that a toxic study needs to be done. The money hasn't yet been released for that purpose. It's quite possible that the restoration may prove to be unfeasible anyway after the study is done. (Ruth Gravanis)

Response

The conclusions of the Mission Bay EIR were reached without consideration of the Candlestick wetland development, although wetlands in that area, if developed, would provide (or restore) additional habitat for birds displaced from Mission Bay. If wetlands were developed at both Candlestick Point and Mission Bay under Alternative B or Variant 11, it would help to improve wildlife habitat for wetland species along the bayside shoreline of San Francisco. (Variant 11 [EIR Hearing Proposal] is described in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.) Toxic pollutant studies would be performed for Mission Bay wetland sites, as well as for the rest of the Project Area (see

Volume Two, VI.N. Hazardous Wastes, pp. VI.N.39-VI.N.45). See the Response on pp. XV.K.4-XV.K.6 for new mitigation measures concerning habitat retention.

City decision-makers would determine whether wetland habitats are provided at Candlestick Point, Mission Bay or both locations, outside of the environmental impact review process.

Comment

[p.] VI.M.21 - Terrestrial M.1 - Planting with vegetation types useful to wildlife should always stress the importance of using natives wherever possible

. . . Only appropriate native species should be planted in the upland areas, and any invasive exotics should be removed from the project site to minimize the difficulty of keeping exotica out of the restoration areas. Landscape guidelines which prohibit planting of invasive exotics should be adopted for the entire development. (Toby Levine, Mission Creek Conservancy)

Response

Mitigation Measure M.4, on p. VI.M.22 of Volume Two, suggests use of native species in planting buffer areas.

Invasive exotic species of eucalyptus, acacia, Spanish broom, African cape-weed, ice plant, and pampas grass have become weedy pests in many upland areas of California and should be avoided in landscaping the Project Area. However, invasive species of cordgrass have become established at several locations in San Francisco Bay, but are not expected to be a problem.

Wetland creation would also use only salt marsh plant species, most of which are native to California, if Mitigation Measure M.11, on p. VI.M.24 of Volume Two, is implemented.

To further identify native species appropriate to the uplands above the wetland area, the following is added to the end of Mitigation Measure M.11 on p. VI.M.24 of Volume Two:

- 5. Coast live oak (*Quercus agrifolia*), toyon (*Heteromeles arbutifolia*), coyote brush (*Baccharis pilularis* var. *consanguinea* and *B. p.* "twin peaks"), sandbar willow (*Salix Hindsiana*), dune tansy (*Tanacetum* sp.).

St. Catherine's lace (*Eriogonum giganteum* and *E. arborescens*), Pacific wild rye grass (*Elymus pacificus*), paintbrush (*Castilleja* sp.), and seeds of California poppy and lupine between +6 feet NGVD (-2.6 feet San Francisco City Datum) and the crests of the berms and knolls which surround the wetland.

Comments

Benefits of Wetland Restoration. The creation of a tidal salt marsh at the mouth of China Basin Channel, as described under Alternative B in the DEIR, is the only provision of the Mission Bay Project which would adequately mitigate the loss of existing wildlife habitat at the project site. In addition, wetland restoration at this site would directly benefit The City of San Francisco in several important ways:

(1) *The Environment.* Wetlands are crucial to the health of San Francisco Bay. The Bay wetlands enhance water quality and provide crucial breeding habitat and foraging grounds for diverse shorebirds, waterfowl, fish, and animals. Unfortunately, most of San Francisco Bay's wetlands have been destroyed. Biological diversity and water quality have declined to the extent that every acre of wetlands which can now be created or preserved is critically important. The restoration of wetlands at Mission Bay will have a direct positive impact on the health of San Francisco Bay and therefore on the City of San Francisco, which depends on the Bay for its economy and for its quality of life.

(2) *The Economy.* The restoration of wetlands at Mission Bay will have a direct positive effect on the economy of San Francisco, [benefiting] San Francisco's fishing industry, . . . tourist industry, . . . [and] economic viability of the Mission Bay Project itself. Housing adjacent to the wetland open space will have a higher value than housing in a high density setting. The increased revenues from this property could help defray the costs of affordable housing projects. Similarly, the wetlands would be an amenity to hotels built on or near the project site, and would increase their economic potential.

3) *Public Education.* A salt marsh at Mission Bay, so close to the urban center of San Francisco, will be a powerful educational tool. Here is an opportunity to teach both children and adults about the importance of wetlands to the natural environment and to our quality of life.

(4) Recreation and Open Space. The recreation potential of an urban salt marsh at Mission Bay is enormous. According to a recent survey by the U.S. Fish and Wildlife Service, over 50% of adult Americans participate in wildlife-oriented outdoor recreation activities. The proportion is certainly higher in the Bay Area, where we live surrounded by natural wonders. At the new Mission Bay wetlands, people may engage in passive recreation such as bird watching and other forms of nature study, or they may simply enjoy quiet contemplation in a natural setting. The need for this type of recreation is acute in San Francisco, since traffic gridlock and inadequate public transportation are making it increasingly difficult for people to get out of the City to enjoy nature. The natural wetland area will diversify and complement the public access-open space plan of the Mission Bay Project.

(5) Regional Leadership. As the largest Bay Area population and economic center, The City of San Francisco must play a leadership role in maintaining environmental quality. The creation of this wetland will demonstrate to other Bay Area cities that San Francisco is ready and willing to do its part to restore the health of San Francisco Bay.

It is unfortunate that the Mission Bay Project DEIR does such a poor job of pointing out these benefits of wetland restoration. The DEIR undersells Alternative B, which is by far the most environmentally sound of the three alternative development plans, and which would bring the most benefits to The City. (Scott Morrical, Golden Gate Audubon Society)

[In Vol. 2, p. VI.M.12 in the EIR states that:] "The proposed wetlands would serve to enhance the presence of wildlife, provide public benefits and augment the number of marshes existing in the Bay." Please note the discussion that has occurred of late of the very serious problems related to the degradation of the Bay, and the fact that, if the wetland is built, we will be making an important physical and symbolic statement regarding the restoration of the Bay of San Francisco. (Toby Levine, Mission Creek Conservancy)

There is little concern about the wetlands shown in the EIR, once again lending an air of incompleteness or unreality to the discussions. (Arden Smith, Potrero Boosters and Merchants Association)

... Wetlands are vitally important to wildlife. For birds, the wetlands of San Francisco Bay are

a key link in the Pacific flyway which has been eloquently called by author Peter Steinhart, "a river of birds." Over one million shorebirds use San Francisco Bay on migration according to a Pt. Reyes bird observatory 1988 census. Hundreds of thousands of water fowl and shorebirds winter on San Francisco Bay and many live and breed here, including the endangered species like the California Clapperrail. (Scott Morrical, Golden Gate Audubon Society)

If the wetland is not developed, it will surely mean that the creatures who have begun to return to the area will in a sense be evicted. It will also mean that a great opportunity, similar in many ways to Lake Merritt in Oakland, will be lost . . . and that is the opportunity to provide residents of San Francisco to experience a natural wetland, the peace and quiet of observing shorebirds and other creatures in their natural states, and to provide residents with recreational opportunities which are not age specific, but readily available to all. (Toby Levine, Mission Creek Conservancy)

Response

Under Alternative B, the creation of wetland areas, notably along China Basin Channel but also in two other areas, would enhance wildlife values on the site. The total area of the proposed wetlands is limited in size to about 33 acres, a valuable, although relatively small, addition to total Bay Area wetlands.

These wetland habitat "patches" would provide opportunities for wildlife, including stopovers for migratory species and resting/foraging areas for a variety of water birds including shorebirds, egrets and herons. These wetlands would reinforce current trends of increased wildlife use along China Basin Channel. They would provide scenic amenities to the overall development, a sense of open space. They would probably also be beneficial to fish stocks along the channel and those utilizing bayfront areas. They could, depending on design, provide some recreation and educational opportunities.

Mitigation Measure M.5, on p. VI.M.22 of Volume Two, is revised to acknowledge the mitigating value of including wetlands in Alternative B. A new sentence is added to the beginning of the measure and the first sentence is revised, as follows:

- The wetlands sites would enhance the marginal wetland area currently located along the banks of China Basin Channel, as well

as provide expanded wetland habitat opportunities in the Project Area. Wildlife values could be increased further by providing contiguous unbroken blocks of open space and wetland habitats by consolidating areas as described in the following measures:

While it is difficult to argue against the logic and positive philosophy contained in the Comments, it is the responsibility of the EIR to present objective information. In this regard, it is important to also identify some of the limitations related to wetlands development at this site.

First, the site presents significant constraints of size such that any contribution to the overall health of wildlife populations and water quality improvements would likely be small. Second, direct economic benefits to the fishing industry and tourism are also likely to be minimal in comparison to other factors. It cannot be stated categorically that housing would have higher value because of its location adjacent to a wetland; many would argue that housing adjacent to a public park rather than a wetland would generate higher values for homeowners. Third, development of the wetland would be a costly undertaking. It has not yet been determined whether a wetland would be included and, if so, who would bear this cost. If a wetland were to be developed, given the constraints of available acreage, adverse water quality, potentially polluted soils and sediments, and difficulty in planning for an open space feature in a densely populated area, considerable further study and planning would be required to derive a workable plan. Fourth, wetland restoration, much less wetland creation, is not a well-developed science. It is more art than science at present, and any wetland created in the manner proposed here must be regarded as experimental. In short, even the best designed wetland may not be feasible. One must conclude that the idea of creating a wetland is a concept worthy of further consideration for the reasons noted by the commenter, but it may not be an easy undertaking to obtain successful results.

In Volume Two, p. VI.M.9, the third sentence of the second paragraph under "Alternative B" is revised to state:

- An increase of approximately three acres in open water habitat over present conditions is planned.

The sixth sentence of this paragraph is changed to state:

- By the year 2000, heron, egret and some

shorebird feeding sites along the mid-channel would be removed and replaced by a larger area of wetlands.

The eighth, ninth and tenth sentences of this paragraph, which continues on p. VI.M.10, are deleted. A new subheading, "Wetlands Context and Design," is added after the second full paragraph on p. VI.M.12, and the following new paragraphs are added before the subheading "Initial Phase of Development":

- In order for developed wetlands to better function as wildlife habitat, it would be desirable to maximize the width of the wetland in the elevation range between +2.5 and +4.0 feet NGVD (-6.1 and -4.6 San Francisco City Datum) which would be the appropriate elevations for a marsh plain. At least one of the islands should be at this elevation with high-tide refuge (Extreme High Tide is +6.7 feet NGVD or -1.9 San Francisco City Datum) areas for small mammals. The marsh plain would support the growth of common pickleweed, fleshy jaumea, and salt grass, three perennial plants capable of producing about 8,800 pounds per acre of plant tissue each year./24,24a/ This plant material would enter the Bay waters or be buried in the mud and serve as food for bacteria, fungi and small animals.

The pickleweed may invade naturally and establish, but large amounts of natural invasion are not expected because there are few sources of seed or plant parts in the area. Planting of the marsh plain is recommended. Small sloughs cut through the salt marsh plain would provide feeding sites for great blue herons, great egrets, shorebirds, black-crowned night herons, and snowy egrets. The plain would be used also as a resting area for shorebirds, herons and egrets during flood tide and high tide while the mudflats are covered with tidal water.

A second elevation range which should equal the marsh plain in extent is that between -2.5 and +1 feet NGVD (-11.1 and -7.6 feet San Francisco City datum). This is the elevation appropriate for San Francisco Bay mudflat which is very important in providing habitat for colonizing invertebrates such as the clams, worms, amphipods, detritus feeding snails, and tube worms./24b/ None of these animals is native, but they do account for the majority of the animal biomass in the mud of San Francisco Bay/24c,24d,24e/ and form the basis of the diets of many shorebirds and some fishes.

Shorebird species which may feed on the mudflat and use the marsh plain for resting would include western sandpiper, short-billed dowitcher, American avocet, willet, marbled godwit, black-bellied plover, black-necked stilt, dunlin (or red-backed sandpiper) and semipalmated plover which are often abundant or very common on San Francisco Bay mudflats /24f,24g/ and in restoration sites /24h/.

The transition between the marsh plain and the mudflat (elevation +1 to +2.5 feet NGVD, -7.6 to -6.1 feet San Francisco City Datum) may be a narrow zone and, therefore, have a steeper slope than the plain or the mudflat. This slope should be planted with California cordgrass, a tall grass which spreads by underground rhizomes binding together the naturally soft sediments of the zone. California cordgrass, once established, would shelter and provide cover and foraging habitat for birds such as the California clapper rail which feeds on ribbed mussels, clams, yellow shore crabs, and spiders./24/

Due to the absence of rails in central San Francisco Bay north of Foster City, south of Richardson Bay and west of Emeryville /24i/, there may be no populations close enough to occupy the habitat. Higher areas with rock and mud or sand on islands may be used by killdeer, sandpipers and sanderlings./19,20,23/

The shallow portions of the lagoon areas may be used by herons, egrets, dabbling ducks, and western and California gulls. Diving birds such as western and pied-billed grebes, cormorants and terns would fish the deeper water. Scaups and ruddy ducks may also use the embayment. Occasionally, harbor seals may swim about the lagoon and haul out on the islands.

No substantial temporary impacts to wildlife from creation of the wetlands are expected, as the site currently receives little use.

In Volume Two, the following new notes are added after note /30/ on p. VI.M.28:

- /24a/ Cuneo, K.L., "San Francisco Bay Salt Marsh Vegetation Geography and Ecology: A Baseline for Use in Impact Assessment and Restoration Planning," Ph.D. Dissertation, University of California, Berkeley, California, 1987.
- /24b/ Thompson, J.K., and F.H. Nichols, "Benthic Macrofaunal Biomass of San Francisco Bay, California: January/February

and August 1973," U.S. Geological Survey Open File Report 81-1331, 1981.

- /24c/ Nichols, F.H., "Natural and Antrogeogenic Influences on Benthic Community Structure in San Francisco Bay," pp. 409-426, in T.J. Conomos, editor, San Francisco Bay: The Urbanized Estuary, Pacific Division, American Association for the Advancement of Science, San Francisco, 1979.
 - /24d/ Nichols, F.H., and M.M. Pamatmat, "The Ecology of the Soft-Bottom Benthos of San Francisco Bay: A Community Profile," prepared for U.S. Fish and Wildlife Service, Washington, D.C., 1988.
 - /24e/ Niesin, T.M., and E.B. Lyke, "Benthic Colonization" in T. Niesin and M. Josselyn, editors, The Hayward Regional Shoreline Marsh Restoration: Biological Succession During the First Year Following Dike Removal, Department of Biological Sciences, San Francisco State University and Tiburon Center for Environmental Studies, 1981.
 - /24f/ Storer, R.W., "The Seasonal Occurrence of Shorebirds on Bay Farm Island, Alameda County, California," The Condor 53:186-193, 1951.
 - /24g/ Recher, H.F., "Some Aspects of the Ecology of Migrant Shorebirds," Ecology 47:393-407, 1966.
 - /24h/ Cogswell, H.L. "Populations of Birds Using New Tidal Lagoons Compared to an Outer Tidal Flat on San Francisco Bay at Hayward, California," in T. Niesin and M. Josselyn, editors, The Hayward Regional Shoreline Marsh Restoration: Biological Succession During the First Year Following Dike Removal, Department of Biological Sciences, San Francisco State University and Tiburon Center for Environmental Studies, 1981.
 - /24i/ Harvey, T.E., "California Clapper Rail Survey, 1978-1979," Job Final Report, Job V-1.8, Project E-W-3, California Department of Fish and Game, Sacramento, California, 1980.
- In Volume Two, p. VI.M.10, the fifth sentence of the second full paragraph is amended, as follows:
- This would favor human-tolerant species such as rock dove (pigeon), European starling, Brewer's blackbird and house sparrow.

The last sentence in the last paragraph on p. VI.M.10 is deleted.

In Volume Two, p. VI.M.11, the last sentence of the first paragraph is deleted.

In Volume Two, p. VI.M.11, the second paragraph is revised and the third sentence deleted. This paragraph states, as amended:

- As vegetation matures, the island would provide a protected area for waterfowl, shorebird, heron, and egret roosting. Brewer's blackbirds from the park area may also use the island for feeding and resting. A buffer zone of vegetation, elevation difference or distance would be required around the wetlands to shield the area from human activity and disturbance (see Mitigation); this would enhance the area for use by other more sensitive, human-intolerant birds, such as the shorebirds, egrets and herons.^{/23,24/}

The third paragraph on p. VI.M.11 of Volume Two is deleted.

In Volume Two, p. VI.M.11, the third sentence of the fourth paragraph is revised to state:

- Each area would contain some open water, mudflats, salt marsh, and a vegetated island.

On p. II.86 of Volume One, the second sentence of the second paragraph in the left-hand column under "Wetlands" is revised to state:

- Each wetland would contain mudflats, salt marsh, open water, and an island.

The third sentence in this paragraph, which continues in the top of the right-hand column, is revised to state:

- The mudflats and salt marsh would provide feeding and resting sites for wading birds, such as great blue herons, great egrets, black-crowned night herons, and snowy egrets, and shorebirds, such as killdeer, sandpipers, and sanderlings.

Comment

At the bottom of page [VI.M.]22 it should be noted that detailed design to be done later should involve not only wetlands restoration experts, biologists and hydrologists, but also landscape architects with an artistic orientation for maximum aesthetics and wildlife value.

More important, it must be specified that any wetland restoration / re-creation to mitigate wildlife losses at Mission Creek must take place on the Mission Bay project site. (Ruth Gravanis)

Response

Both preliminary studies and actual design for the wetland would necessarily involve a multi-disciplinary effort. If implemented, the creation of the wetlands would be a "showcase" effort, as few other models have been created for this in the past. It would be important to define clear objectives for the wetland, as these objectives would drive the basic design concept.

Wetland planning is a complex multi-disciplinary procedure that involves biologists, hydrologists, landscape architects, and land use specialists. Factors taken into account would include species biology for fish and birds, tidal and freshwater patterns of flow, appropriate plantings and monitoring of plant establishment, among others. These wetlands must, for example, be designed to be compatible with mosquito abatement. The wetland design suggestions, Mitigation Measures M.6 through M.13 presented on pp. VI.M.23-VI.M.25 of Volume Two, are only conceptual. Given acceptance of Alternative B by the City, or any other option involving wetlands, they would be subject to refinement on a site-specific basis as detailed site-design procedures come into play. In the planning process, site development would be subject to further refinement and environmental review, including possible problems from any toxic contaminants in the fill. If those studies proved a wetland habitat to be feasible, it could be sited within Mission Bay (if approved by the City's decision-makers).

Comment

... We feel that the EIR was pretty deficient in addressing the wetlands, especially in the benefits that it would bring to this project. We see it as one of the reasons that this project may be successful with the amount of people who are moving in as a result of the number of housing.

Whichever alternative is there, there are going to be thousands of people moving into a relatively small area. This is going to be a dense environment. And the denser an environment it is, the more necessary it is for people to have an escape from the urban pressures that are entailed by such an environment. . . .

In Mission Bay, with size being restricted, you are going to need some kind of an open space that is going to provide the escape in a relatively small number of acres. And a wetland is uniquely positioned to do that. . . .

A wetland allows - provides - immediacy with nature that few other outdoor experiences can provide. The wildlife is there right at your feet, birds, the water. Harbor seals, as you have probably heard, have come into Mission Creek. There is a tremendous amount of wildlife that is there now. The creation of a wetland will provide a tremendous amount more. This is going to provide a tremendous benefit to all those thousands of people who are living there.

In addition, there have been a lot of comments I have seen in the papers about outdoor activities for children with the assumption that perhaps wetlands do not provide that. I'd like to dissuade you from that idea.

. . . [The] Audubon Canyon Ranch, . . . in Bolinas, . . . is a heron rookery and also has some wetland areas. We provide outreach to approximately 6,000 school children per year. . . . Not just suburban, but we do reach into San Francisco and the denser areas. These are tremendously successful. Teachers are knocking at our door. We have to turn away people every year.

. . . [In addition,] the National Wildlife Refuge in Fremont turns away people. . . . Crab Cove over in [the] East Bay, which is another wetland area, also has to turn away school trips who are now seeking that.

. . . And it's becoming more and more difficult, especially with the traffic. And Mission Bay is not going to help the traffic, especially with the traffic for people to reach out to natural areas to get away.

If you can provide that right within the project, you are going to be providing these kids with something they're not going to get anywhere else. It's very important that we provide this kind of resource to the people who are coming here.
(Arthur Feinstein, Golden Gate Audubon Society)

Response

The educational value of a wetland in Mission Bay may be its greatest benefit. In the EIR, Mitigation Measure M.8, on p. VI.M.23 of Volume Two, identifies mitigation measures to promote observation of wetland wildlife.

While the proposed wetlands would provide scenic/visual amenities, there are limits to these benefits. Wetland areas 7 to 14 acres in size and adjacent to urban development, traffic and Port of San Francisco activities cannot provide a complete sense of the natural Bay edge, or natural solitude and detachment from the surrounding urban environment. Unfortunately, these wetland values have not existed within San Francisco for decades, and current opportunities for these experiences are located in various San Francisco Bay locations. Wetlands capable of providing these amenities are generally in the 100 acres and upwards range. The Hayward Regional Shoreline Marsh, which has an interpretive center, contains about 200 acres of salt marsh and 50 to 100 acres of freshwater marsh. The Corte Madera Muzzi Marsh natural area, which has levee-top trails, is some 90 acres. Other marshes with public access include the 43-acre Arrowhead Marsh, on San Leandro Bay, which has catwalks and is maintained by the East Bay Regional Parks District; the 233 acres at China Camp State Park; and the 160 acres at Palo Alto Baylands, which includes Hook Island.

Audubon Canyon Ranch consists of 1,000 upland acres with the entire Bolinas Lagoon for herons and egrets to feed in, far from the disturbances of its many visitors.

The limitations of a wetlands at Mission Bay should not be taken to negate the positive effects in Alternative B. As proposed, wetlands would have many beneficial effects, locally and regionally.

Comments

[p. VI.M.10 (fenced wetland)] expresses a very elitist idea of wetlands stating that their use would be limited to nature observation and appreciation from walkways and observation platforms along the perimeter of the wetlands. The "steep-wall construction" idea sounds more like a zoo exhibit than the re-creation of a natural bay edge. As one of the main groups interested in the reestablishing of a wetland, we have a very different concept. Our concept is one in which the human population would have, through an interpretive center, guided walks and information systems, an intimate experience with the wildlife present. Therefore, we would like this paragraph eliminated, as an opinionated, narrow view of the role of natural areas in the urban environment. It should be noted that wetlands serve important human recreational needs. According to National Wildlife magazine (Aug. - Sept. 1987), more than half of all adult Americans engage in

wildlife-related recreational activities. The EIR ignores this kind of information in stating wildlife benefits....

Enclosing the restoration area with a concrete retaining wall should be avoided if at all possible. The idea is to let the urban dweller experience the natural bay edge... the gradual transition from open water, through the various intertidal zones and to the upland areas with the naturally occurring changes in geology, vegetation and wildlife. If contaminated groundwater necessitates a walled-off wetland, so be it; but thorough testing should be done so we know ahead of time.

Alternative B, of course, is not an alternative that Mission Creek Conservancy has proposed in the past. The Mission Creek Conservancy, when we presented our alternatives to the City Planning Department through the Clearinghouse, had the preferred alternative which was the wetland being placed in the area of Pier 48 and 50, and then the second alternative for the wetland to be placed in the Mission Creek area, ... near the Fourth Street Bridge.

What you would have, if [our] alternative were to be developed, would be an area where people can walk, where they can hike, where they can kite, where they can watch the birds, where they can have an environment where they are able to return and see what the Bay was once like. (Toby Levine, Mission Creek Conservancy)

Response

The Mission Creek Conservancy's concept of the wetland is better suited to a large wetland like that at Coyote Hills Regional Park. The very small size of the wetlands in Alternative B would not permit the type of interaction suggested by the commenter (hiking, kiting, etc.) if the wildlife is to remain. In general, wildlife and human visitors do not mix well -- which is why zoos provide physical separation. In wetlands, human intrusion results in flight or abandonment by wildlife or in increased stress on wildlife that cannot easily escape. The close proximity of the wetland to a large, dense, urban population with frequent intrusions would make it very difficult for all but the most human-tolerant species to inhabit the wetland. In setting objectives for the wetlands, decisions would have to be made whether wildlife or human use values take priority. In preparing the EIR, the priority was placed on wildlife enhancement values; thus, the approach was to provide limited access to the wetlands. In planning for the wetland, it must be

kept in mind that not all visitors would respect wildlife with the same concern expressed by commenters. As noted, some may be expected to view the wetland as an area to exercise dogs, a wasteland, or the site for "midnight dumping" of toxic materials and trash, events that could have disastrous effects on the wildlife. Marin County recently had a problem with bird mutilations. While there is no need to be pessimistic in taking such concerns into account, the EIR must be realistic. Rather than being "elitist," the proposed measures in the EIR provide a means to protect wildlife from these very practical problems that could most certainly arise.

In Mitigation Measure M.8, on p. VI.M.23 of Volume Two, the fourth sentence is revised and two new sentences are added after it, as follows:

- Specific measures that should be taken to achieve this include: constructing a fence between the footpath and the wetland high enough to prevent people from easily jumping or stepping over it, and planting upland vegetation along the wetland/footpath interface in a "buffer zone," dense enough to discourage through traffic. The fence should be of a fine mesh to prevent domestic animals from moving through it into the wetlands. The park signs should discourage high-activity sports along the marsh footpath.

The use of fencing and concrete retaining walls is thus a realistic measure to maintain the wildlife habitat qualities proposed in these wetlands. Concrete retaining walls have the further advantage of allowing the wetland gradient to begin directly at the edge of the site, thus creating a larger area over which the sedimentation essential to wetland formation can occur. In other words, larger portions of each site could be made functional wetlands. The top elevation of the wall would be as high as the sidewalk (approximately eight to ten feet NGVD [-.6 to 1.4 San Francisco City Datum]) and the marsh plain would range from 2.5 to 4 feet NGVD with high areas to provide refuge for small animals and birds during extremely high tides (6.7 feet NGVD [-1.9 San Francisco City Datum]). Another possible advantage of the walls is that they can be designed to look like piers and to provide vantage points for wetland viewing.

The soils and groundwater would be tested for contaminants, as noted in the EIR. See Volume Two, VI.L. Hydrology and Water Quality, Mitigation Measure L.9 on p. VI.L.38; and Volume Two, VI.N. Hazardous Wastes, Mitigation Measures N.1 through N.5e on pp. VI.N.39-VI.N.45.

Comment

Alternative B divides the total wetland acreage among 3 separate sites. There should be some discussion of the relative merits of contiguous wetland acreage, since a larger mass would allow greater distance between the center and any human impacts at the perimeter. (Toby Levine, Mission Creek Conservancy)

Response

As noted in the Comment, a larger wetland would also allow greater separation of humans and wildlife, which would benefit the latter. A wetland about 20 acres in size is considered in Variant 11. (Variant 11 [EIR Hearing Proposal] is discussed in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.)

The following new paragraph is added to the end of the third full paragraph on p. VI.M.12 of Volume Two:

- In general, the larger and more contiguous the wetland, the greater the benefits would be for wildlife. A larger and possibly more diverse wildlife population could be supported by one large wetland in comparison to three small wetlands.

Comment

M.15 - This mitigation measure is extremely important, but it doesn't go far enough. We know that the development of Mission Bay will negatively impact the wildlife values of the channel. Wetland restoration is being proposed, in part, as a mitigation for the loss in wildlife value. The EIR must not be certified unless we know that the proposed mitigation is feasible. Therefore, thorough testing for contaminants must take place on all the possible wetland restoration sites before the EIR is certified so that the project plan will be able to specify the most feasible site(s). (Toby Levine, Mission Creek Conservancy)

Response

The EIR suggests that the wetland be constructed of clean soil (see Mitigation Measure M.6 on p. VI.M.23 of Volume Two). Mitigation Measure M.15, on p. VI.M.25 of Volume Two, suggests testing to determine if in situ soils are

free of contaminants. A detailed discussion of procedures for conducting site investigation and clean-up of toxic wastes is presented in Volume Two, VI.N. Hazardous Wastes, Mitigation Measures N.1-N.5e on pp. VI.N.39-VI.N.45.

Comment

[p. VI.M.10-13] Can't jaumea, saltgrass, alkali bulrush and sea lavender be established with human assistance? . . .

M.2 - Establishment of vegetation should not wait until construction begins. Creation of the wetlands should be done first so that the wildlife will have somewhere to go during construction of other phases. . . .

M.16 - "Gently sloping banks" are also necessary for colonization by spartina. (Toby Levine, Mission Creek Conservancy)

Response

It is assumed that direct plantings of jaumea, salt-grass, gumweed, salt marsh lavender, and spartina would be done in order to create the wetland (see Mitigation Measure M.11 on p. VI.M.24 in Volume Two). As the commenter observes, the spartina would also be planted on a very flat slope between +1 and +2.5 feet NGVD (-7.6 and -6.1 feet San Francisco City Datum). Plant establishment would require monitoring. After planting, it is assumed that the marsh would have to function "naturally"; that is, minimal maintenance would be required.

In order to ensure that disturbance of wildlife is minimal, the wetlands should be built before the channel banks are riprapped. Even if the wetlands are not fully vegetated, they would provide habitat for invertebrates and they, in turn, would provide food for egrets, herons and other wading birds and shorebirds. See new Mitigation Measures M.5f and M.5g, given in the Response on pp. XV.K.4-XV.K.6. See also the Response on pp. XV.K.9-XV.K.10.

NOTES - Vegetation and Wildlife

- /1/ Brian Hunter, Manager, Region 3, California Department of Fish and Game, Yountville, California, telephone conversation, July 27, 1989.

STAFF-INITIATED TEXT CHANGES
FOR VEGETATION AND WILDLIFE

The following staff-initiated revisions are made to the Vegetation and Wildlife subchapters in the Mission Bay Draft EIR.

Volume One - Chapter II. Highlights & Conclusions (Vegetation and Wildlife)

On p. II.88, the first sentence of the first paragraph under "Mitigation Measures," in the right-hand column, is amended, as follows:

- **Nineteen mitigation measures are included.**

Volume Two - VI.M. Vegetation and Wildlife

Mitigation Measure M.12, on p. VI.M.25, is revised to state:

- Construct the wetlands islands with clean dredge spoils below +4 feet NGVD (-4.6 feet San Francisco City Datum) and clean upland soil above +4 feet NGVD to provide a viable substrate for plant growth./30/

Note /4/, on p. VI.M.26, is revised to state:

- /4/ Rick York, Botany Research Assistant, California Natural Diversity Data Base, Sacramento, telephone conversation, October 20, 1986.

L. HAZARDOUS WASTES

(NOTE: Much of the discussion of Hazardous Wastes in the Draft EIR, including mitigation measures, was based on information contained in the Draft Mission Bay Hazards Mitigation Program (the Mitigation Program), a companion document to the EIR. Portions of that document have been revised; the Final Mitigation Program is on file and available for public review at the Department of City Planning.

The words "Remedial Action Plan (RAP)" as used in the Environmental Impact Report are used in their generic and not specific sense. As used in the EIR, a Remedial Action Plan refers to a site remediation plan developed after appropriate investigation which will be implemented after review by the applicable governmental agencies. It does not refer to any specific type of site remediation effort under the jurisdiction of any specific governmental agency.

Changes to Section VI.N. Hazardous Wastes, in Volume Two of the EIR, resulting from changes in the Mitigation Program, Responses to Comments, and Staff-Initiated Text Changes are identified where appropriate throughout this section. Additional staff-initiated text changes are presented in XV.T. Staff-Initiated Text Changes for the Mission Bay Hazards Mitigation Program.)

APPROACH TO SOIL/GROUNDWATER SAMPLING DATA AND ANALYSIS

Comments

The other area is that the report proposes that toxics be cleaned up on a phase-by-phase basis, that the project would be divided essentially into various distinct areas which would be developed at different times. It would be evaluated for toxic wastes as they were proposed for development. At least that is my understanding of it.

I guess my question is, can we certificate an environmental evaluation if we delay until another day the analysis and cleanup of toxics, toxic waste on the property? It suggests that we don't have all the information before us at this point to determine the effect of that toxic cleanup.

I guess my question is a technical one, and that is whether we have enough information to certify this EIR if we don't know the extent of the toxic waste in the area at the time that we certify. (Commissioner Morales)

Toxics are talked about in the Environmental Impact Report. I don't understand any answers to them. I don't know what the toxic situation is. The EIR seems to indicate we've got a bad one, maybe. And we are worried about that. We don't know what that means. And we understand testing has been done. We are concerned. (Arden Smith, Potrero Boosters and Merchants Association)

The [Program] is just the starting point for preparing the discussion which should be in the EIR about the impact of the toxics on the Mission Bay project. We need to have core drilling, sampling and analysis of the toxics found now, before the City signs the development agreement with Santa Fe Pacific Realty. Now is the time for the public to know what potential impacts toxics could have on the development of the Mission Bay project....

The EIR should have provided the community with the best information that could be obtained from a complete and thorough testing for toxics in the Mission Bay project area. Because it failed to do so, the EIR cannot be certified.

The Plan [Program] provides that the real testing, core drilling, sampling and analysis would start at the beginning of the first phase -- but only for that phase, with minor exceptions. Any toxics found at that time must be cleaned up before any development can begin. However, no one knows at this time where the first phase will be located in the project, or what toxics in what quantity are also located there. For that reason, the [Program] is silent about the methods to be used to mitigate the impact of those toxics on the environment, the range of costs likely to be expended in that mitigation effort, the time needed to complete the mitigation effort, the impact that any delays in the mitigation effort may have on the environment in the remaining, undeveloped part of the project, and any alternative mitigation efforts that might be used to remove the toxics located in that area. In short, all the [Program] tells us is that toxics are a serious problem in the Mission Bay project area. The [Program] does tell us more about the problems with toxics in that area than we knew before, but the information provided does not include an adequate discussion of the impact of those toxics on the environment which would enable anyone to be reasonably well-informed about proceeding with the development of the Mission Bay project.... (San Francisco Group of the Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

There are other documents and other materials that the Department of City Planning staff has available to review which does go into greater detail and says to us that there is a serious problem in Mission Bay with the toxicity in the land. The extent of the problem is not known at this point. There haven't been many core, if any, core samples done to find out just exactly the extent of the problem, where it might be, and what it's going to take to clean it up. It's going to be important to do that. (Jim Firth, Potrero League of Active Neighbors)

The entire toxics issue must be analyzed, including all of the essential testing, before certifying the EIR. This is necessary before committing any human life, or bird life, to Mission Bay. (Toby Levine, Mission Creek Conservancy)

The EIR does not discuss a hazards mitigation plan for a specific project; as a result, it does not adequately consider and describe the cleanup of toxics and mitigation measures which would actually be taken to remove toxics in Mission Bay.

The EIR does not discuss clean up and mitigation efforts for each of the alternative projects discussed in the EIR, which efforts could vary significantly depending on the alternative actually chosen for development of the project.

...In addition, the [Program] does not discuss the alternative methods for development of Mission Bay addressed in the main part of the EIR and the mitigation of hazardous wastes in the project under each of those alternatives. (San Francisco Group of the Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

Response

The commenters state or imply that extensive "core" or subsurface sampling of the Project Area is required for an adequate EIR or is an integral part of the California Environmental Quality Act (CEQA), and that such information is needed to analyze the impacts of the alternative projects proposed.

The City has concluded that it is not necessary or reasonable to require in-depth subsurface sampling and analysis to be included in this EIR. The Mission Bay EIR is a program EIR for a staged project. The degree of specificity in the EIR should correspond to the degree of specificity involved in the underlying activity described in the EIR (CEQA Guidelines §15146).

As discussed in the EIR, the proposed project would involve the following approval actions: a development agreement between the City and project sponsor; a Sub-area Plan or Special Area Plan for the Project Area (Specific Plan); Planning Code and Zoning Map amendments; and Tentative Subdivision Map approval (see the EIR, pp. V.40-V.41 of Volume Two, Chapter V. The EIR Alternatives and Approval Process). The approvals, if granted, would establish the conditions and procedures for the future development of the 300+ acre Project Area. The construction details for a given parcel under a given Alternative are not known at this time. This kind of information is needed to devise site-specific remediation plans, if such plans are required. Detailed subsurface investigations, as suggested by the Comments, would represent a much greater level of specificity than required by CEQA.

The City has never required detailed subsurface analysis as a precondition to the type of approvals contemplated. This project differs from prior Master Plan / Planning Code amendment projects in that it includes a development agreement with a single property owner for most of the property covered in the Alternatives. However, a development agreement, like the Master Plan or Planning Code, merely specifies the terms and conditions under which project development may proceed; it does not in itself convey entitlement to development permits.

The program EIR includes the results of surface reconnaissance and review of historical information about the prior uses within the Project Area (see the EIR, pp. VI.N.5-VI.N.27 of Volume Two). The comprehensive historical review and site reconnaissance provide an overview of the types of hazardous substances likely to be present at the site. The evidence obtained from the preliminary analysis of site conditions indicates that remediation to the level appropriate for any of the proposed uses included in the various Alternatives would be technologically feasible. This is an appropriate level of analysis, given the level of detail of the "Project" (Alternatives) discussed in the EIR.

The Final Hazards Mitigation Program (Mitigation Program), if adopted, would ensure that City decision-makers will have the necessary information at the appropriate level of detail prior to approving any development activity in the future. (See proposed additional mitigation measures discussed in the Response on pp. XV.L.6-XV.L.11, following.) The Mitigation Program proposes that the City require an Areawide Survey of the entire 300+ acre Project

Area. The Mitigation Program also proposes an in-depth investigation of each development phase area and buffer zone (see the Draft Mitigation Program, p. 89, and the EIR, pp. VI.N.40-VI.N.41 of Volume Two). If this information reveals the need for site mitigation, the City would require preparation of a remediation plan. The investigation results and any remediation plans would be available to decision-makers prior to granting of any discretionary approval.

The approvals described in the EIR, if granted, would not limit the City's police power authority to protect public health and safety. If information provided from the Areawide Survey and in-depth investigation required further environmental analysis under CEQA, that analysis could be provided to decision-makers prior to granting of any subsequent discretionary approval. Additional mitigation measures could be devised and imposed to address significant adverse impacts newly identified. Further, since site remediation is largely within the jurisdiction of state regulatory agencies, those agencies are not constrained by any prior action by the City.

Even if subsurface sampling reveals the presence of hazardous materials, the precise measures appropriate to remediate those conditions will not be known until more details about the development of a particular parcel are known. As one commenter from the Department of Health Services noted (Susan Solarz, under "Standards For Clean-up of Hazardous Substances," pp. XV.L.18), "Responsible parties are expected to clean-up contamination to levels consistent with the intended future use of the property. Minimum standards or clean-up levels are not explicitly stated in the law." The appropriate level of cleanup and thus the Remedial Action Plan (RAP) for a given parcel may vary depending upon the future land use of the site, the building type, and the construction method. For example, remediation requirements for a park could be very different from those required for a parking lot, with identical subsurface conditions. Each Alternative proposed in the EIR involves a different mix of residential, industrial, and commercial land use. The cleanup level and the appropriate remediation measures for a given parcel may vary depending upon which Alternative is selected.

Finally, it is not reasonable to require the project sponsor at this point to conduct detailed subsurface sampling and to develop and seek approval for RAPs for each of the various proposed alternative land use programs. The process by which a specific site is fully

characterized for hazardous substances, and a RAP is developed and approved, is a lengthy one. Multiple rounds of sampling and analysis may be required, and as remediation progresses, new information may come to light requiring more sampling and substantial changes in remediation techniques. The process can take as long as several months to several years, depending on site conditions as well as the availability of review-agency staff. Moreover, detailed development site and construction design may be important factors in the RAP process. Those details are not known at this stage in the project. Further, remediation techniques are changing and improving rapidly and a plan proposed today may be outdated in a few years. Given the long-term nature of the "project" (Alternatives), the scarcity of details about site-specific developments, the rapidly changing nature of remediation techniques, and the complexity of devising and reviewing site-specific RAPs, it would be an unreasonable expenditure of project-sponsor and regulatory-agency staff time and effort to develop and review RAPs for alternative land use plans.

PROPOSED PHASED APPROACH TO SITE INVESTIGATION AND POSSIBLE REMEDIATION ACTIVITIES

Comments

After the City signs the development agreement with Santa Fe Pacific Realty, and a specific plan is designed for the project, the [Mitigation Program] proposes that the project will be developed in phases in order to deal with the removal and mitigation of toxics. However, this phased development plan is not discussed in the main portion of the EIR, and neither the developer nor the City have agreed to a phase by phase development of the project. (San Francisco Group of the Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

The EIR's inadequacy with respect to the cleanup issue is the focus of other comments. I note, however, that in situ treatment and disposal is the preferred method for cleanup; and prior approval [of] sensitive land uses (such as housing, commercial, and office) would militate against it. . . . (Zach Cowan, Mission Creek Conservancy, San Francisco Group of the Sierra Club, San Francisco Tomorrow)

... [B]ased on what is in the EIR to date and the...Hazards Mitigation [Program] that was

done as part of the EIR, you cannot certify the EIR. . . [T]he EIR does not talk about a particular plan as far as the project is concerned. It provides alternatives and it talks about a lot of cumulative impacts if the project goes ahead, but it doesn't talk about a particular plan. . . [E]ven if you had a plan, it wouldn't matter. You could not certify the EIR because of the problems with the hazardous waste in Mission Bay.

. . . [T]here is no real discussion in the EIR about the impact of those hazardous wastes on Mission Bay. There is the [Hazards Mitigation Program] supplement which was prepared by a consultant in consultation with the City which indicates how the hazardous waste would be attempted to be taken care of once the EIR is certified and once there is a development agreement signed. What that study is is an attempt to make a historical analysis of what, first of all, went into the fill in the Bay, because it was a Bay.

Secondly, [that study identifies] what the uses were on that fill over the periods been used up to date. Based on a lot of historical information that . . . went parcel by parcel . . . , they tried to determine from the uses and what went into the fill in the bay the kinds of chemicals that might be there now. They also walked the premises to try and determine what that might be. They did no core sample drillings whatsoever. They do not know what is actually there. They don't know where anything actually is. They don't know what quantity of hazardous materials may be there. But they do know and they have said that they think there is a substantial chance that there are hazardous wastes throughout Mission Bay, and there are more in some areas than others.

What the Hazard Mitigation [Program] does do is say: Well, we can't do anything now about a mitigation plan. We don't know what's there. But this is how we would handle it after the EIR is certified and after the development agreement is signed and the committee is committed to this project.

[The Hazards Mitigation Program] suggests that Mission Bay be developed as a phase-by-phase project, and we pick . . . where we would start the first phase. Before the first phase, we would do the kind of testing that is needed to really find out what is there at that first phase. That's all we would do. We would [test in] a buffer zone around the area. Basically we would go for that first phase, and we would . . . [h]ave to clean up at that time.

Any of you who have had any experience with what a clean-up means if they find hazardous

waste knows there are a number of regulatory agencies involved. You have to drill to find out what is there. You have to analyze it. You have to develop the alternatives that may be available and the best process to get rid of that stuff. Then you have to get all of this approved by the regulatory agencies, and then you have to do it. It could take a substantial time. It could take a year, two years. You just don't know until you know what's there. Basically, what the problem is is this Hazards Mitigation [Program] doesn't really tell us what's there and how we are going to deal with it. It just kind of tells us how they would go about dealing with it once they start to find out what's there. . . .

. . . [W]e have to find out what the hazardous wastes are there right now before the EIR is certified because you can't make any kind of statements and analysis about a Mitigation [Program] and how to deal with it and the impact on the environment and what the impact of the environment is going to have on Mission Bay for an EIR unless you know those kinds of things. . . .

. . . The other ways it works are you really have to discuss what hazardous wastes are in there on a cumulative basis in your EIR. . . . We feel [the approach of the study] is inappropriate because then you are starting to deal with it on a piece-meal basis where you should be dealing with it all at once on a cumulative basis and you ought to know what your problems are with the impact and the environment because of all of these hazardous wastes. It's an integral part of the EIR process. We don't know exactly why it's left out now. . . .

. . . [T]here is this concept that, well, we will do it in a phased basis and that will really take care of the problems. . . .

If you can imagine a project stopping in midstream and some of it has been cleaned up and some of it hasn't, and there are kids playing out there and maybe there is open space in one place. You have got a lot of problems right around what has been cleaned up and built. I don't think anybody considers that satisfactory. . . . (Neil Gendel, San Francisco Group of the Sierra Club, San Francisco Tomorrow and the Mission Bay Clearinghouse)

Mission Bay's Hazardous Waste Mitigation [Program] states that hazardous wastes may be found throughout the project. . . . The [Program] admits that no core testing of the soil has been done to determine what hazardous wastes are where and in what quantity in Mission Bay. . . . Instead, the [Program] proposes to do the testing and clean up after the Development Agreement

has been signed, but only with respect to the site where a phase of the development is about to begin. Since the Mission Bay project will be developed in phases, the existence of hazardous wastes found at any phase in the project could seriously delay further development of the entire project. In fact, the delay and the cost to mitigate could substantially impact the economic feasibility of part or all of the project.

The main point of this discussion is that the entire design of the Mission Bay project is based on what Santa Fe Realty and the City planners want to build on and above the ground without taking into consideration what already exists on and below the ground. While that is the standard method for developing project plans in most cases, Mission Bay is not a normal land site. As the Mitigation [Program] states, hazardous wastes when found can take several months to several years to completely clean up, depending on what is found at any particular location. Substantial time may be required to decide what is the best method for removing the waste and to get the necessary authorizations to do the removal. The actual clean up must then be done and that procedure can run into trouble. In addition, the actual costs to do the clean up are difficult to estimate and often turn out to be greater than the initial estimate. . . .

The argument in favor of the proposed Mitigation [Program] [is] . . . that the expense is just too high to justify core testing and clean up of hazardous wastes before the project begins. Further, the mitigation of the hazardous wastes problem now could substantially delay the entire project. . . . [T]hose are the precise reasons why the testing and clean up, if required, should be done now. Otherwise, the entire planning process may be illusory and we will all be wasting a great deal of time working on a project that will not be developed as planned. (Neil Gendel)

. . . [W]hat you may be committing the City to, and everybody else who is involved in this process, is a failed project. Because basically what could happen is because of the delays involved in the clean-up, as you go through phase by phase and you don't know what you are going to find, you may reach the point where it's just economically unfeasible for the developers out there to do anything about this project because they have had to wait so long and interest rates have changed, the whole development demand for whatever they wanted to build has changed. . . .

What we are really talking about here is a very serious problem because this development may not really happen. If it does, because I know how

the City intends to deal with it, and it's trying to be as flexible as possible and each phase be as integrated as possible, is that whatever the plan is that everybody agrees upon before Mission Bay starts to be developed is not going to be what it looks like several years down the road. It may change substantially over the period of time. It may be much more costly than anybody knows. There is nothing that anybody has done to analyze how much this is going to cost. Hazardous waste removal is tremendously expensive itself, much less the cost of delay and changing demand and things like that. . . .

. . . [I]f the toxics there are bad enough that it would delay the whole project, then you have to say -- you have to discuss that and what the alternatives are to deal with that because of the impact on the project. It's not just what the project will do to the environment, but it's how the environment will affect the project. Therefore, if the project is delayed, then you have an impact on the environment as this project is delayed and things change. There will be more impacts on the environment because of that. It's a little bit of a convoluted process, but that's the way it works. (Neil Gendel, San Francisco Group of the Sierra Club, San Francisco Tomorrow and the Mission Bay Clearinghouse)

The EIR does not discuss the potential impacts that hazardous waste mitigation efforts may have on the development of the project, and, therefore, the impact on the environment in the project if the development is delayed or is not completed because of the problems caused by trying to mitigate the impact of hazardous wastes in the project. . . .

. . . Will the final project plan be designed to avoid dealing with the worst toxics at the beginning of the first phase or soon thereafter?

. . . What will the impact be on the entire development if significant amounts of toxics are found in an early phase which results in substantial delays in developing later phases of the project? (San Francisco Group of the Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

. . . Because the EIR does not address an identifiable project, it is impossible to consider what cleanup measures might be necessary, since specific cleanup would depend, at least in part, on what the project is.

. . . Federal statutes require cleanup of hazardous substances. This cleanup must be considered part of the project even if the agency has no present intention to [do] anything but study its

alternatives. (*McQueen v. MPROSD* (1988) ___ Cal.App.3d ___, 249 Cal.Rptr. 439.) *A fortiori*, the EIR must consider cleanup in this case, now that it is actually considering alternatives....

... Cleanup is a form of mitigation. Leaving determination of mitigation measures to the future is not permitted. *Sundstrom v. County of Mendocino* (1988) Cal App.3d ___, 248 Cal.Rptr. 352, 358-359. (Zach Cowan, Mission Creek Conservancy, San Francisco Group of the Sierra Club, San Francisco Tomorrow)

Response

These commenters express concern over the proposed phased approach to site investigation and, if necessary, remediation activities. The commenters suggest that the possible presence of toxic substances in combination with the phased development approach may result in a risk to workers and residents located in newly developed portions, delay development, force changes in the land use plan for the project, or cause development to stop. Commenters also suggest that the phasing approach prevents the analysis of specific remediation measures for each Alternative and impermissibly puts off determination of mitigation measures until a later time.

As to the concern that phased development may result in toxics impacts to workers and residents, that possibility is minimized by the proposed mitigation measure (Measure N.1 of the EIR, on p. VI.N.39 of Volume Two) requiring an areawide survey of the entire Project Area prior to approval of any development activity.

The purpose of the areawide survey is to identify and locate any toxic substances at the land surface, toxic gases, and the migration of contaminants into or out of the Project Area. Those types of conditions could pose a hazard to construction workers or residents. Once identified, those areas would be subject to more intensive investigation and stabilized until a Remedial Action Plan was prepared and approved. Remedial action would then be undertaken in a sequence consistent with the protection of public health and existing law.

As described in the Mitigation Program, the areawide survey would include sampling of surface soils, groundwater around the perimeter of the Project Area, foreign materials, and soil gas, as well as a site reconnaissance to identify locations warranting "hot-spot" sampling. Surface soil samples would be collected and analyzed at approximately 70 target locations and

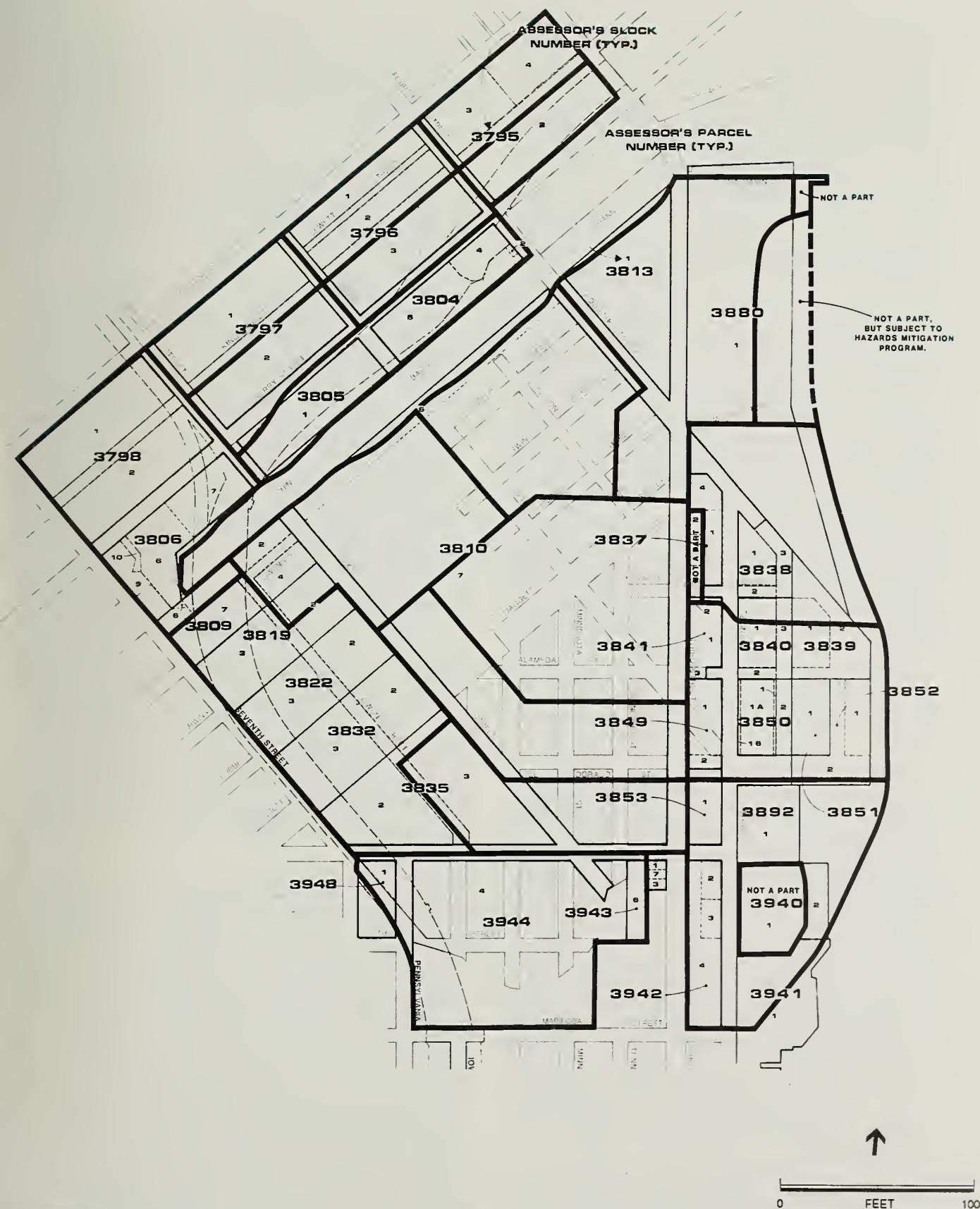
50 to 100 randomly selected locations. The major objective of the Areawide Survey is the identification of possible hazards in portions of the Project Area not being developed in the initial phase, but which could pose problems during development or habitation of later phases.

This approach would prevent future residents or occupants of Mission Bay from coming into contact with toxics in undeveloped portions of the Project Area, since the initial Areawide Survey would include sampling of surface soils and soil gas throughout the entire Project Area. Surface soils and soil gases are the two environmental media through which exposure to hazardous materials in undeveloped areas could occur. Implementation of the Areawide Survey prior to any development activity would greatly reduce the chances that an unforeseen occurrence (such as discovery of a significant amount of toxic materials midway through build-out of the project) would jeopardize the health of residents or employees or seriously affect the schedule of later development phases.

In addition to requiring an Areawide Survey prior to initiation of any development activity within the Project Area, the City could require in-depth investigation and remediation for each area proposed for near-term development activities (Measure N.2 of the EIR, on p. VI.N.40 of Volume Two). As proposed in the Mitigation Program, the initial step preceding development of each phase would be an investigation (soil and groundwater sampling and analysis) of the development phase area and a surrounding buffer zone. This would be followed, if necessary, by preparation of a Remedial Action Plan, which would then be reviewed and approved by regulatory agencies before remediation could proceed. Through this two-tiered approach to identification and, if necessary, remediation of hazardous substances, the incremental implementation of the project can be accomplished safely.

As shown in Figure XV.L.1, the Areawide Survey and sampling and remediation by development phase area would provide broader protection than that afforded by City Ordinance #253-86 (Hazardous Soil Analysis). The City ordinance provides for testing and remediation of each building site before a building permit is issued.

Methods to minimize interactions between already developed project phases and possible ongoing remediation efforts or unremediated areas are discussed in the Mitigation Program, Chapter VI, Sections F-H. Remediation activities would be isolated from the community to the



Mission Bay

SOURCE: KCA Engineers

FIGURE XV.L.1
INVESTIGATION AND
REMEDIAL PLAN MAP

greatest degree possible. Such methods might include long-term scheduling of project activities to coordinate with site development, short-term scheduling of work crews to minimize public interactions, establishment of buffer zones around remediation areas, or temporary street closures.

Trucks hauling contaminated soil, if any, would have to travel for short distances on City streets to the Sixth Street/I-280 or Fifth Street/I-80 on-ramps, but all waste haulers would be required to comply with applicable federal regulations as specified in 40 CFR 263 ("Standards Applicable to Transporters of Hazardous Waste"). Inconveniences to the community would be no greater than those caused by normal construction activities in an urban area. Environmental effects of truck traffic and associated equipment operations, and related effects on noise and air quality, are expected to be indistinguishable from, and small in comparison to, those from other ongoing site preparation and construction activities.

Additional mitigation measures are proposed to ensure that future residents and workers in the early increments of development would not be at risk due to existing conditions, or subsequent remediation activities, in other parts of the Project Area.

The following new mitigation measures are added after the second full paragraph on p. VI.N.43 as Measures N.3a, N.3b, and N.3c, respectively:

- **Alternatives A and B - Divide the Project Area into specifically delineated development phase areas for purposes of in-depth investigations, which would define the minimum area that must be investigated for toxic contamination prior to allowing development to proceed on any property in that area.**

Prior to approving any development activity (e.g., final or subsequent tentative subdivision map, building permit) within any given development phase area, require completion of an in-depth investigation of: (1) the entire development phase area; (2) a 300-500-foot buffer zone around the development phase area; and (3) any areas designated for infrastructure linked to the sites proposed for development.

This approach would ensure that the City had detailed information concerning the location and extent of hazardous substances in a development phase area and in a buffer zone around the development phase area prior to authorizing any development activities in an

identified development phase area. The delineation of the development phase areas for investigation purposes prior to Project development would make the process more predictable.

A preliminary map dividing the Project Area into delineated development phase areas for the purposes of hazardous waste investigation is shown in Figure XV.L.1, on p. XV.L.7 of Volume Four.

- **Alternatives A and B - Require that each Remedial Action Plan for a development phase area and its buffer zone include an implementation schedule which will take into consideration the anticipated sequence of development, the prospective use and occupancy of sites which may be affected by remediation activities, the street and traffic patterns, and the nature of the remediation measures proposed. Thus, the remediation schedule could be formulated to avoid or minimize adverse environmental effects.**
- **Alternatives A and B - Require that the project sponsor take steps necessary to secure undeveloped areas and certain existing uses in order to prevent unauthorized access.**

Some commenters suggest that the City should consider additional mitigation measures, including: (1) requiring an in-depth investigation of the entire Project Area prior to approval of any specific development activity; and (2) requiring that the entire Project Area be remediated prior to approval of any specific development activity. Those proposed measures are considered unreasonable, unnecessary and economically inefficient.

A requirement that the entire Project Area be subject to in-depth hazardous materials investigation before any development could occur is unrealistic, given the size of the project. The economic analysis of the proposed land uses indicates that market absorption would take about 30 years, regardless of which of the Alternatives is selected (see the EIR, p. IV.8 of Volume Two, Chapter IV. Study Approach and Organization). Thus, many of the existing (1990) uses may continue to operate for many years after the first stage of development is initiated. Therefore, in-depth hazardous materials investigations which greatly preceded actual development would have to be repeated because of the possibility of changed site conditions. Retesting may also be required as more detailed information became available concerning site-specific design or because of new information about potentially hazardous substances.

The level of detailed information generated by in-depth investigations is not necessary for the entire Project Area as a precondition to initiation of development activity in a development phase area. The EIR's proposed requirement of an Areawide Survey would provide information concerning chemicals in surface soils, and possible surface gases, which may adversely affect land uses in the early stages of development. If information produced by the Areawide Survey indicated that follow-up investigation or remedial measures imposed by a regulatory agency were required prior to any development activity, such work would be carried out. Once development or construction proposals are initiated, the EIR's proposed requirement for in-depth investigation (and remedial measures required by a regulatory agency) for each development phase area and its buffer zone would provide further protection to the ultimate inhabitants.

These measures, if adopted, will provide sufficient information concerning hazardous substances at the appropriate time. Thus, the proposal to require in-depth investigation of the entire 300+ acre site as a pre-condition to any development activity is considered to be unreasonable and economically inefficient.

For similar reasons, the proposal to require remediation of the entire Project Area prior to initiation of any development activity is considered unreasonable and unnecessary. First, to require remediation of all hazardous substances to a level appropriate for the proposed future uses would be unnecessarily disruptive of the ongoing (in 1990) economic activities within the Project Area.

Second, remediation measures cannot be fully developed in the absence of information concerning specific development proposals. The project proposed is a plan for the long-term development of the Project Area. The City cannot reasonably require development to be initiated if it is not economically feasible to proceed. It would not be reasonable or economically feasible to require immediate and comprehensive implementation of the plan alternative selected. It is not reasonable to require detailed design information for the entire site, given the 30-year build-out period projected for the area. Premature imposition of such a requirement may foreclose options for desirable amendments to the land use plan which might otherwise evolve over time in response to community concerns or new information. In addition, such a requirement would unnecessarily disrupt existing (in 1990) productive economic uses on the site, leading to premature loss of blue-

collar jobs and abandonment of existing structures.

Finally, phased implementation of remediation facilitates better management and oversight of the process. In fact, federal procedures encourage phased implementation of remediation activities, as it fosters more effective management of the process and is more likely to lead to more rapid and effective implementation of the RAP (see U.S. EPA, March 1988, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA).

Another concern was that remediation needs could delay the project or lead to reevaluation of the economic feasibility of the development as planned.

Any one of a number of situations or conditions could lead to a delay in project development. These include adverse economic conditions as well as technical obstacles that were unforeseen. Delay of the overall project, or portions thereof, may temporarily impede the achievement of desirable economic or social conditions, but delay in and of itself is not an environmental issue; it is not necessarily an adverse condition. The project sponsor is aware of the possible presence of hazardous wastes and has included potential remediation activities in planning and phasing.

Mission Bay would be developed in increments, although the reason for this phasing is not the remediation of toxics as suggested by one commenter. Development of a land area of 300+ acres, given the intensity and mix of development proposed in the various Alternatives, must necessarily occur incrementally. It is normal practice with large developments to construct the overall development in stages or phases. That permits coordination and concentration of efforts and the implementation of an orderly marketing and leasing plan. A series of smaller developments can be managed by a relatively small management team that becomes increasingly efficient and experienced, and is employed on the project over a long period. This approach allows Santa Fe Pacific Realty Corporation (SFP) to finance a portion of the development, construct that portion, and use the proceeds from that development to finance succeeding increments; this is sound business practice that any developer would follow. The incremental approach also allows SFP to adjust the development schedule to reflect market conditions.

The first set of mitigation measures added earlier in this Response emphasize the physical considerations involved in staged investigation

and remediation of hazardous materials. The following new mitigation measures, emphasizing the related planning and economic considerations, are added to the EIR on p. VI.N.43 of Volume Two, following added Measure N.3c, as Measures N.3d and N.3e, respectively:

- Alternatives A and B - Require that once development of a portion of the Project Area is initiated, that it be pursued diligently to completion. In the same way that a City can require bonds or other financial security for completion of infrastructure and public facilities necessary to serve a proposed development, the City could require bonds or other financial security to ensure completion of investigation and remediation once initiated.
- Alternatives A and B - Also require that the area covered by an in-depth site investigation include all uses which are linked for planning reasons. For example, prior to issuing a building permit for an office project, the City could require site investigation and, if necessary, a remedial action plan for the areas where housing linked to that office project is to be developed (including areas where parks and infrastructure necessary to serve the residential use will be located). This approach would ensure that hazards remediation would not be an impediment to the development of a balance of uses at any given stage of Project implementation.

This measure cannot, of course, ensure that the whole Project Area will be developed precisely according to whichever Plan Alternative is selected. The land owner retains the right to seek amendments to the development plan. The City, however, has discretion to approve or disapprove proposed amendments in whole or in part.

Another concern was that the phased approach prevents an analysis of specific remediation measures for hazardous substances as part of the alternatives analysis. The commenter cites McQueen v. MPROSD (1988) 202 Cal. App. 3d 1136 to support this proposition. In McQueen, a regional open space district improperly approved an open space acquisition, claiming a CEQA exemption. The Court held that the District had impermissibly divided the project into segments to evade CEQA review by not addressing the property maintenance obligations which the District also assumed, including storage, if not use or disposal, of polychlorinated biphenyls (PCBs) and other specific hazardous waste already known to exist on the site.

Unlike the situation in the McQueen case, an EIR has been prepared for the Mission Bay project. The Mission Bay Draft EIR does not ignore the possibility that remediation of hazardous substances may be a consequence of the Project. The Draft EIR provides a comprehensive discussion of the historic use of the Project Area, and the hazardous substances that may be found there as a result of former and existing uses. Further, the Draft EIR proposes a Mitigation Program for investigation and remediation of the Project Area which establishes a comprehensive approach to this potential problem. The Mitigation Program, if adopted, would ensure that decision makers and the public have information about hazardous substances at the appropriate time, prior to approval of a specific development activity.

The same commenter asserts that the remediation of hazardous substances is a form of mitigation, and that CEQA does not permit a local agency to leave determination of mitigation measures to the future. The commenter cites Sundstrom v. County of Mendocino (1988) for this proposition. In Sundstrom, the county issued a negative declaration for a private sewage treatment plant. The county argued that the project could not have any potentially significant impacts on the environment, because it required that any such impacts be mitigated if a future study of the site's hydrology revealed the possibility of significant impacts. The Court held that the county violated CEQA Guidelines §15070(b)(1) governing the use of "mitigated" negative declarations, which requires that the mitigation measures be incorporated in the proposed project before the negative declaration is published.

The Sundstrom holding is not relevant to the approach taken in the Mission Bay Draft EIR. Most notably, an EIR has been prepared for the Mission Bay Project. Therefore, the rules governing a "mitigated" negative declaration are not applicable. Preparation of a program EIR is appropriate where the project involves a series of actions which are related geographically or as logical parts in a chain of contemplated actions. The CEQA Guidelines recognize the need for evaluating subsequent site-specific activities for impacts not analyzed in the program EIR. One of the benefits of preparing a program EIR for a phased project is identification of the types of detailed studies that are necessary to proper consideration of the potential environmental impacts from subsequent activities (CEQA Guidelines §15168).

For example, the EIR on San Francisco's Downtown Plan (EE81.3) recognized that

development impacts on ground-level wind was an environmental issue that should be addressed when a precise building form was proposed for a given location. The Downtown Plan EIR noted that wind tunnel testing would be required, and identified a general standard for maximum wind speeds. Here, the Mission Bay EIR identifies the potential need for remediation of hazardous substances as part of subsequent development activities, and proposes the Mitigation Program as a mechanism for analyzing and mitigating any impacts which may arise due to subsequent activities.

The City, unlike the lead agency in Sundstrom, has not delegated away its power or discretion to subsequently review or act, nor has it eliminated the possibility of future public input. It is appropriate for the City to reserve discretion to impose mitigation measures if future analysis associated with subsequent specific development proposals yields new information concerning environmental impacts. CEQA provides for, and in fact encourages, this type of tiered approach to environmental review (CEQA Guidelines §15168).

POTENTIAL SECONDARY AND CUMULATIVE IMPACTS FROM HAZARDS REMEDIATION OR MITIGATION MEASURES

Comments

. . . The EIR does not identify, evaluate and analyze specific impacts on the environment from the removal of specific toxics in specific locations.

. . . The EIR does not fully consider the impact of hazardous waste mitigation on the environment and improperly leaves discussion of specific toxics mitigation efforts to be done in piecemeal fashion in the future. (San Francisco Group of the Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

. . . The EIR and Supplement admit that cleanup (mitigation) will be necessary, but the EIR does not identify or evaluate the impacts thereof. Cleanup involves excavating, dredging, treating, and disposing of various hazardous substances, potentially including PCB. These activities in turn involve environmental impacts on groundwater, air and bay water quality, habitat, and nearby human and animal receptors. These impacts must be considered (Guidelines sec. 15126(c); Stevens v. City of Glendale (1981) 125 Cal.App.3d 986, 178 Cal.Rptr. 367.) Without identification of the constituents, their amounts and locations, this analysis is impossible.

. . . Cleanup is a major part of the project. What alternatives might be available that would avoid the impacts of cleanup? The EIR cannot say, because there has been no investigation as to what may be involved in cleanup. Informed decision making and balancing of costs and benefits is impossible. (Zach Cowan, Mission Creek Conservancy, San Francisco Group of the Sierra Club, San Francisco Tomorrow)

. . . The EIR does not discuss and analyze the cumulative impacts of each mitigation effort made during the different phases of the project, and it does not discuss and analyze the alternative mitigation efforts which might lessen those impacts. . . .

. . . The [Mission Bay Hazards Mitigation Program] contains an historical study of the materials used to fill the Bay over the years, as well as the uses of that land after the Bay was filled. Based on that survey, the [Program] attempts to describe what hazardous wastes may exist in and on the fill. Unfortunately, the attempt is nothing more than an educated guess since no core drilling, sampling and analysis was done to find out what toxics are actually where and in what quantity. The [Program] does not describe nor does anyone know what toxics are actually located where, nor does it attempt to describe what impact toxics could have on the environment in the project from dredging, digging, groundwater pumping, bioremediation, transporting toxics and the like. Instead, the [Program] states that numerous toxics exist throughout Mission Bay and describes in very general terms how those toxics would be dealt with after the City is committed to the development agreement. . . .

. . . How will already developed phases be impacted by mitigation of toxics efforts in latter phases with respect to problems like air pollution, hauling toxics through the community and the like? (San Francisco Group of the Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

Response

While the concern of the public over the potential for hazardous wastes to be discovered on the site is understandable, the potential impact on the environment by the project -- as concerns hazardous substances -- may be characterized as beneficial.

The current situation is that hazardous substances may be present in the Project Area, with the potential for the public or the environment to be

exposed. The project would cause the site to be thoroughly investigated for the presence of such materials, turning an unknown potential hazard into a specifically identifiable situation. Existing federal and state laws require remediation of contaminated property, if it poses unacceptable risks to health and the environment. Moreover, San Francisco requires the Mission Bay sites to be remediated to safe levels before development, so each part of the Project Area must be remediated in connection with issuance of building permits. The regulations concerning toxic-substance handling, neutralization, treatment, and disposal are among the most comprehensive and strict regulations governing any environmental activity; these activities would also be closely supervised by local, state, and federal public health agencies. While unforeseen accidents, such as traffic mishaps, could occur, the potential for substantial public exposure or release of hazardous materials to the environment during remediation is low. (See, for example, Mitigation Measures N.3-N.5 of the EIR, on pp. VI.N.41-VI.N.45 of Volume Two, and Mitigation Program pp. 134-135 and 146-147.) The potential impact on construction workers using proper equipment and precautions would be slight and the potential impact on future occupants negligible, as indicated in the EIR and Mitigation Program citations above.

The remediation of hazardous materials in the Project Area -- if any -- may be a beneficial impact of the project in that the control, neutralization, or removal of such materials to a disposal facility specifically designed for their containment would lower the risk of environmental damage.

The expected beneficial nature of remediation activities is recognized by state law and regulations which provide that toxic site remediation orders issued by regulatory agencies would normally qualify for a statutory or categorical exemption from CEQA requirements. For example, waste discharge requirements issued by a regional water quality control board, the mechanism typically used by these boards to initiate toxics cleanup activities, are statutorily exempt from a requirement to prepare an EIR or negative declaration by California Water Code §13389. Further, CEQA guidelines allow a categorical exemption for enforcement activities taken by a regulatory agency when issuing an administrative order, such as a toxic site remediation order issued by the California Department of Health Services (CEQA Guidelines §15321). Environmental factors are obviously important in devising a remediation plan, and it is recognized that if a project were reasonably expected to have a significant adverse

impact on the environment, a categorical exemption would be inapplicable. Nevertheless, the CEQA exemptions for remediation activities reflect the fact that these actions are presumed to have a positive environmental impact.

The contaminants present, their concentrations, the proposed land use and levels of remediation mandated by concerned agencies all would affect the remediation measures to be selected. Therefore, remediation measures would be analyzed more appropriately when specific development authorizations are sought. Impacts and mitigation of remediation activities can be discussed productively in a generic manner. Available remediation techniques are well known, and potential environmental impacts and appropriate mitigation measures for these techniques can be described with some degree of confidence. The Mitigation Program discusses several potential remediation alternatives in Section VI.D. The process for selecting the most effective remediation alternative from among several is illustrated in Figure 8 on p. 133 of the Mitigation Program.

Each remediation technique would have certain potential impacts or disruptions associated with it. At the same time, site remediation processes include a number of effective techniques to deal with such problems. Methods used to mitigate impacts and minimize public concerns generally fall into three groups: community involvement, engineering techniques, and environmental monitoring.

A major concern of local residents and other commenters is the amount, comprehensibility, and quality of information available to them concerning remediation and mitigation plans and activities. Currently, such information is presented to the greatest practical degree in the Mitigation Program, and will be expanded considerably in the Remedial Action Plan prepared prior to each specific remediation action. Technically, a remediation sequence includes first a risk assessment to evaluate potential hazards from existing conditions that have been revealed during sampling and analysis; followed by a feasibility analysis that considers various removal, treatment, or other remediation alternatives for the specific problem at hand; and finally a Remedial Action Plan, which explains exactly what will be done and includes, among other things, methods to be used for mitigating environmental impacts of remediation activities.

Engineering and monitoring activities appropriate to a specific remediation action typically would be included in the Remedial Action Plan, which would incorporate health and safety measures

designed to protect both the general public and workers on the site. Remedial Action Plans also include decontamination requirements, dust control, and other mitigation procedures to prevent migration of contamination to nearby areas, as well as measures common to all large projects, such as noise mitigation and traffic control. These plans are public documents and would be discussed with concerned citizens at community meetings prior to approval and implementation. The plans would be submitted to regulatory agencies for approval before work could commence.

Principal activities associated with hazards remediation that would be expected to cause environmental impacts include: excavation and treatment/transport of contaminated soils, in-situ treatment of soils, installation of monitoring wells, and extraction and treatment of contaminated groundwater. To further elaborate on information presented in the Draft EIR, Table XV.L.1 lists the various remediation activities and techniques, potential environmental impacts of each, and corresponding types of mitigation measures.

For example, excavation of contaminated soil might require temporary stockpiling of the material prior to treatment or disposal. A potential impact might be short-term emissions of volatile organic compounds, and a mitigation measure would be covering of the stockpile with a low-permeability liner. Information presented in Table XV.L.1 is not quantitative, nor is it necessarily exhaustive. However, all foreseeable items are listed, and the table should provide a good overview of the types of remediation activities, potential effects, and mitigation measures that would be expected to occur as part of any effort to remediate hazardous materials. As noted previously, the City would conduct additional environmental analysis if required.

REMEDIATION COSTS, FINANCING, INSURANCE, AND GUARANTEES FOR TRANSFER OF REMEDIATED PROPERTY

Comments

. . . The purpose of an EIR is to provide enough information for a decision maker to make a good decision, meaning whoever approves this project. If you don't have the information, then, obviously, they can't make the right decision. For example, if the clean up [of toxic contamination] turns out to cost \$1 billion, that

means none of the projects can be built because there won't be any money left. . . . (Mike Vandeman)

. . . Who is going to pay to clean up the toxics in the Mission Bay project, and how much is that clean up effort going to cost. (San Francisco Group of the Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

. . . [D]evelopers are going to be a little hesitant to get involved [where the property is contaminated with toxic substances]. A bank is going to be hesitant to lend money to a developer to develop in that situation. And an insurance company is not going to want to touch it at all. (Jim Firth, Potrero League of Active Neighbors)

At this time it is not clear that Santa Fe Realty will pay for the entire cost of cleaning up the land in the Mission Bay project area--including any land owned by the City or donated for open space and wetland or for affordable housing. Neither the City nor any of the nonprofit groups can afford to pay for hazardous wastes cleanup. This raises the question of what Santa Fe Realty should be required to pay and when that question should be decided. . . .

At this stage of the discussion, it appears that two important points must be resolved in order to develop a meaningful Mission Bay project plan. First, we need to know what hazardous wastes are where, in what quantity, and the estimated cost to clean up those wastes before the Development Agreement is signed and a project plan is approved by the City. Second, Santa Fe Realty must agree to pay the entire costs to clean up the wastes before the Development Agreement is signed or the project plan approved. If these two points are not resolved as indicated, the Mission Bay project may never be developed as finally proposed either to the satisfaction of Santa Fe Realty or the City. (Neil Gendel)

Remember, the City is going to have a lot of this property and there [are] going to be some trades and there is going to be some open space. Santa Fe is going to give this to the City. Is it clean or isn't it clean? Who is going to pay for it? . . .

. . . [E]verybody is concerned because of the cost and maybe Santa Fe Pacific will just walk away and not clean up the property, and people don't want to scare them away. . . .

. . . But you have got to remember something, lenders want clean property. They are not going to lend on property they don't know whether it's

TABLE XV.L.1: POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES ASSOCIATED WITH REMEDIATION TECHNIQUES

<u>Remediation Techniques</u>	<u>Potential Environmental Impacts</u>	<u>Mitigation Measures</u>
Soils Remediation		
Excavation and Treatment and/or Off-Site Disposal	Short-term air emissions during excavation	Air monitoring and engineering controls, dust control
Temporary Stockpiling	Short-term air emissions Contact with soils	Covering the pile with low-permeability liners Secured fencing, covering the pile, posting warning signs
	Leaching to groundwater	Liners and monitoring
	Visual	Contouring and fencing
Treatment		
Aeration	Air emissions	Aerating only when wind is blowing away from sensitive receptors
	Contaminated dust	Controlling emission rate by limiting amount of soil aerated per BAAQMD rule
Landfarming (Bioremediation)	Same as those for aeration	Dust control and air monitoring Same as those for aeration
Extraction and Filtration	Water use Noise Visual	Using engineering design to minimize water use Temporary noise berms or portable sound barriers Fencing
Combustion	Air emissions Energy Noise Visual	Efficient design, controls and monitoring Portable sound barriers Fencing
Off-Site Disposal	Truck traffic Contaminated dust Spreading contamination	Selecting best truck route Dust control measures including underfilling and tarping of trucks Decontaminating equipment leaving the site

(Continued)

TABLE XV.L.1: POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES ASSOCIATED WITH REMEDIATION TECHNIQUES (continued)

<u>Remediation Techniques</u>	<u>Potential Environmental Impacts</u>	<u>Mitigation Measures</u>
In-site Treatment		
Soil-Gas Extraction	Noise	Using mufflers on equipment
	Air emissions	Using filtration equipment to comply with BAAQMD standards
Flushing as Part of Groundwater Treatment	Area kept wet by recharge	Recharging several feet below ground surface to keep surface dry
Capping or Containment Wall	Area with restricted use	Notifications required by law
	Noise/dust associated with construction activities	Same as regular excavation activities
Groundwater Remediation		
Monitoring Wells	Potential conduit for contaminant migration	Proper installation of wells
	Visual and noise	Short-term (one day per well), no mitigation proposed
Treatment System		
Activated Carbon for Some Organics	Transport of used carbon replacements	Using Department of Transportation-approved transportable carbon vessels
	Visual	Fencing
	Noise	Walls or other noise barriers around system
Ion Exchange for Some Metals	Generation of liquid waste	Infrequent; using licensed haulers to remove liquid wastes for treatment and/or disposal
UV Light and Ozone or Peroxide	None	None
Air Stripping for Some Volatiles	Transport of used carbon replacements	Using Department of Transportation-approved transportable carbon vessels
	or	
	Carbon regeneration would yield a liquid waste requiring removal	Infrequent; using licensed haulers to remove liquid wastes
Precipitation and Filtration	Disposal of hazardous sludge	Appropriate off-site disposal, probably at a Class I facility

SOURCE: Environmental Science Associates, Inc.

clean or not first. Developers want clean property. Insurers want clean property. The affordable housing people want clean property. Everybody wants clean property before they are going to start committing to anything.

Who the hell is going to clean up in the first place? There is nobody else around to do it but Santa Fe Pacific and the City and County of San Francisco. (Neil Gendel, San Francisco Group of the Sierra Club, San Francisco Tomorrow and the Mission Bay Clearinghouse)

. . . The costs of cleanup may be so great that they stall, change or scuttle the whole project, either unbuilt, or, more likely, partly built. This would have environmental impacts. (Citizens Association for Sensible Development of the Bishop Area v. County of Inyo (1985) 172 Cal.App.3d 151, 217 Cal.Rptr. 893; Guidelines sec. 15131.) What would these impacts be? How likely are they to occur? How can they be mitigated or avoided? Evaluation of these issues requires careful study of the costs of cleanup and the phasing plan. (Zach Cowan, Mission Creek Conservancy, San Francisco Group of the Sierra Club, San Francisco Tomorrow)

. . . How will we know that the land granted by Santa Fe Pacific Realty to the City for civic improvements and to developers for affordable housing will be toxic free at the times of the transfers; or, if there are delays caused by the efforts to clean up the toxics, when those transfers will actually occur; or, because of the problems with the toxics, if the land originally designated for transfer will actually be transferred because of the problems encountered in the efforts to clean up the property? (San Francisco Group of the Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

Response

The commenters raise several points: what will clean-up cost and who will pay, can Santa Fe Pacific Realty Corporation (SFP) walk away and not clean up, will the project not be built because clean-up costs too much, will lenders, developers and insurers avoid the project because of potential contamination on the site, and will the City obtain clean land from SFP?

The first question raises the legitimate issue of potential costs of the clean-up program. A number of significant variables, however, make it infeasible to provide a reasonable estimate of clean-up costs in advance. The chemical nature, degree, and physical extent of contamination in

the Project Area cannot be known until the Areawide Survey, and later the in-depth sampling called for in the Mitigation Program, are completed. Similarly, actual technologies used to remediate contaminated portions of the Project Area cannot be specified in advance of obtaining the necessary field data on types of contamination. Complicating this picture are concurrent advances in clean-up technology that take place even as planning continues. Technological advances tend to reduce actual costs over time. Because of these uncertainties, there are no justifiable assumptions on which to base a reasonable cost estimate.

As to who will pay for clean-up, land ownership within the Project Area is shown in the EIR in Figure III.3, on p. III.9 of Volume Two, Chapter III. Background and Area Description. As the primary landowner in the Project Area, SFP would have the primary obligation to pay for most of the remediation costs. However, other current or previous landowners in the Project Area, including the City of San Francisco, could contribute a portion of the remediation costs under a formula to be negotiated with the project sponsor and included in the development agreement.

As to whether SFP could walk away and not clean up, current local, state, and federal regulations require contaminated sites to be remediated whether development proceeds or not. Although the cost of remediation would not be known until in-depth investigations are completed, a comprehensive scheme of local, state and federal laws require existing and former owners and users of contaminated property to be responsible for the costs of cleaning that property, whether the work is done by the landowners or users themselves or by the government. This financial obligation cannot legally be avoided by disposing of the property, doing nothing with the property, or some corporate action such as reorganization or filing for bankruptcy. Redevelopment of the area, however, may result in remediation sooner rather than later, as the development would give the site higher clean-up priority with state agencies. Under such conditions, SFP has a strong incentive to develop the property in order to recover the remediation costs. As a result, hazardous-material issues would not be likely ultimately to interfere with project development.

Lenders and developers have moved away from the need to deal only with "clean" properties in recent years since there is very little "clean" property available in any urban environment, and because urban real estate, in general, is so valuable. Although it is true that lenders often

XV. Summary of Comments and Responses

L. Hazardous Wastes

prefer that the property that is security for their loans be free of toxic contamination, it is quite common for such property to be accepted as security provided that the lender is otherwise assured that the property will be remediated and the lender will not be held responsible for the costs of that remediation. To the extent the developers' obligations to remediate contamination are secured either directly or as part of security for subdivision improvements, lenders often accept the same or similar security. The development lending industry has created appropriate assurance mechanisms to deal with the eventuality or possibility of toxic contamination. That this is true is evidenced by the continuing financing and refinancing of development of urban and industrial property all over the United States.

As to whether the City will obtain clean land from SFP, the City can take measures to ensure that the costs of remediating hazardous substances will not impede the timely delivery of parks, housing and public facilities necessary to serve private development. Tentative subdivision maps frequently include conditions requiring completion (or posting of adequate financial security to ensure completion) of infrastructure and other public improvements necessary to serve the proposed development. The costs of investigation and remediation are simply part of the overall costs of the physical improvements to the underlying land dedicated for public purposes.

The following new mitigation measures are added to the EIR on p. VI.N.43 of Volume Two, following added Measure N.3e, as Measures N.3f and N.3g, respectively:

- **Alternatives A and B - Require that the in-depth investigation be completed, and the costs of remediation be secured, if necessary remediation is not already implemented, as a condition to issuance of the final subdivision map(s).**
- **Alternatives A and B - The City could require that all necessary remediation of land designated for linked housing, public facilities, infrastructure, parks, etc. be implemented or secured as a condition of approval of final subdivision maps or building permits. Thus, the City could be assured that prior to its accepting a dedication of property, the property would be thoroughly investigated, remediated, and improved.**

There is no measure that could guarantee that the Mission Bay Plan will be implemented precisely as adopted. However, by establishment of appropriate linkages between private develop-

ment and public improvements or uses, the potential costs of remediating hazardous substances would not interfere with achievement of plan objectives for each increment of development.

SCOPE OF HAZARDS ANALYSIS

Comment

Twenty-seven hazardous materials have been identified as potential contaminants in the Project Area. However, many more chemicals were and are associated with the types of businesses located on or near the Project Area. Therefore, initial analysis of soil and groundwater samples should not be limited to the twenty-seven hazardous materials listed. (Susan Solarz, Department of Health Services)

Response

The reviewer's Comment is correct. The 27 hazardous materials identified from analysis of historic businesses in the Project Area and discussed in the Mitigation Program should only be considered typical of the types of contaminants potentially present. Analysis of soil and groundwater samples would be for all 54 substances included in City Ordinance #253-86 (Hazardous Soils Analysis), not just the example contaminants discussed. This provision is already included in Chapter V, Section B, p. 79, of the Mitigation Program, incorporated by reference into the EIR (p. VI.N.20 of Volume Two). It should be noted that the City ordinance does not address groundwater analysis, which is, however, required by State regulators and is included in the Mitigation Program. The Mitigation Program also explains that in addition to the 54 substances specified for analysis in the City's ordinance, confirmation investigations of the Project Area would concentrate on other known or suspected contaminants.

CONSISTENCY OF REMEDIAL ACTION WITH SUPERFUND METHODS

Comment

The Environmental Risk Assessment should be consistent with the Environmental Protection Agency's Superfund Public Health Evaluation Manual, EPA-450/1-86-060, 1986 and DHS's California Site Mitigation Decision Tree. (Susan Solarz, Department of Health Services)

Response

The hazardous substance studies to be conducted in the Project Area, including site evaluations, risk assessments, and remedial activities (if found to be needed), would be consistent with local, state, and federal law (see the EIR, p. VI.N.20 of Volume Two). Although not all sections of the Superfund Manual would seem to apply to the Mission Bay Project Area (not a Superfund site), the documents cited by the reviewer provide general guidance within which the scope of the studies is expected to fit.

**STANDARDS FOR CLEAN-UP OF
HAZARDOUS SUBSTANCES**

Comment

Responsible parties are expected to clean-up contamination to levels consistent with the intended future use of the property. Minimum standards or clean-up levels are not explicitly stated in the law. (Susan Solarz, Department of Health Services)

Response

The reviewer's Comment regarding lack of minimum remediation standards is noted. The evaluation of potential health risks to anticipated users of the Project Area, which will be determined partly on the basis of designated land uses, would be included in the site-investigation / remedial-action process. The topic also will be covered in the formal Risk Analysis that will be prepared for each contaminant of concern. These items are discussed in Chapter IV, Sections C and D of the Mitigation Program, and are implicit in Mitigation Measures N.1-N.5 of the EIR, on pp. VI.N.39-VI.N.45 of Volume Two, and explicit in added Mitigation Measure N.3b, shown in the Response on pp. XV.L.6-XV.L.11.

**STATE DEPARTMENT OF HEALTH
SERVICES OVERSIGHT**

Comment

Under City Ordinance #253-86 (Analyzing the Soil for Hazardous Wastes), both DHS and the Regional Water Quality Control Board (RWQCB) would be asked to approve site remediation plans and to certify their successful completion should the site come under the provisions of the Ordinance. Due to staffing limitations, DHS may not be able to provide comments or oversight in a timely fashion. . . .

There [have] been no Memoranda of Understanding between DHS, the RWQCB, and the SWRCB. This may or may not affect coordination of effort at this site. (Susan Solarz, Department of Health Services)

Response

The importance of Ordinance #253-86 and the support roles of DHS and the RWQCB in reviewing site remediation plans is discussed in Chapter II, Section A, of the Mitigation Program. The information concerning anticipated staffing levels of DHS is acknowledged. The City's Ordinance has been revised recently to remove the requirement for State agency approval of site investigation and remediation plans. The City Ordinance now allows designated qualified professionals to certify to the adequacy of investigation and remediation efforts. Despite this change in the City law, the development agreement could provide for regulatory agency approval of investigation and remediation plans and their implementation. Regulatory agency participation, coordination and approval are covered in the last two paragraphs of Mitigation Measure N.2 of the EIR, on p. VI.N.43 of Volume Two. To address the concern raised by DHS, the development agreement could provide further that the project sponsor and the City would seek to obtain a Memorandum of Understanding with the relevant State agencies.

It is hoped that up-front planning, active agency coordination, and ample lead time will facilitate the necessary State review. Execution of a Memorandum of Understanding among DHS, RWQCB, and the City and/or project sponsor prior to the beginning of remediation at the site -- should such remediation be needed -- would facilitate coordination of efforts in the Project Area.

SOIL SAMPLING METHODS

Comment

Hazards Mitigation [Program] Page 90, Paragraph 3: "Surface soil samples will be taken at the flagged sampling point, and at three points . . . a distance of three feet from the center sampling point. For sampling points with exposed soils, a six-inch-square, one-inch-high metal frame will be tapped into the ground at each sampling point, and a trowel used to remove the soil to the depth of the frame."

The [Program] proposes one method of collecting surface soil samples, whereas other

simpler methods (use of a clean trowel without the metal frame) may, in fact, be more practical. Additionally, it is recommended to collect surface samples down to a depth of about four inches, since soils below the upper inch may be exposed as a result of erosion or casual human activity. (James W. Augustino, Santa Fe Pacific Realty Corporation)

Response

The Mitigation Program proposes an objective method to collect soil samples (such as the 6"x6"x1" frame described on p. 90) in order to enhance objectivity and comparability of samples. Sampling with a trowel can result in samples of varying areal extent, depth and volume, and may introduce a greater element of selectivity into sample collection.

The commenter's concern regarding the depth of surface samples is noted. Although soils below the upper inch may be exposed as a result of erosion or casual human activity, most such exposure would be to soil within one inch of the surface. Since any contaminants present would probably be most concentrated at the soil surface, extending the sample depth to four inches may excessively dilute the sample with uncontaminated soil, resulting in misleadingly low analytical results. Sampling with a 5"x5" frame two inches deep also would yield an acceptable sample volume while addressing the commenter's concerns. Accordingly, the fourth sentence in the first paragraph under "Surface Soils" on p. 90 of the Draft Mitigation Program quoted by the commenter is changed to read:

- For sampling points with exposed soils, a five-inch-square, two-inch-deep metal frame (or equivalent technology) will be tapped into the ground at each sampling point, and a trowel used to remove the soil to the depth of the frame.

In the last sentence on p. 90, which continues on p. 91, "144 cubic inches" has been changed. As revised, this sentence states:

- Together, these four samples will yield a total sample of 200 cubic inches, which should be sufficient for all necessary tests (the sample size may be adjusted as needed to obtain sufficient material for testing).

In the first sentence of the first full paragraph on p. 91, "36-cubic-inch" has been changed. As revised, this sentence states:

- Each of the individual 50-cubic-inch samples

will be placed in a labeled polyethylene or glass container.

COMPOSITE ANALYSIS

Comment

[*Hazards Mitigation Program*] Page 105, Paragraph 5: "For composite samples of surface soils, sample concentrations will be multiplied by a factor of 4.0 for the purpose of classifying the sample . . . where composite samples are classified as hazardous, the individual samples from which the composite was taken will be tested directly for the contaminant of interest to determine the actual concentration."

We strongly disagree with the proposed approach to interpreting the composite sample analysis results. The multiplication procedure described above generally is used only when the composites are taken from different areas of a given site, not where several closely located subsamples are used to make up one more representative sample. In this case, multiplying the result of the analysis by a factor of 4 has no statistical validity and would produce an overly conservative estimate of the actual concentrations in each of the component samples. This approach will likely lead to many unwarranted analyses (false-positives), particularly for naturally-occurring compounds such as lead, zinc, and other metals. Rather, we recommend that the four subsamples making up each surface sample be treated as one combined sample, since the subsample locations are close enough together to warrant such consideration. (James W. Augustino, Santa Fe Pacific Realty Corporation)

Response

The approach described in the Mitigation Program is intended to be conservative. Because of the discontinuous nature of some types of pollutants, it is possible that compositing of samples would result in combining clean and contaminated samples, thus diluting concentrations and obscuring the true concentrations of hazardous substances. Compositing is justified as an economic screening technique only if it does not result in missing areas of contamination.

There are no City or state guidelines regarding interpretation of analytical results from composite samples. The commenter's primary concern seems to be that multiplying the results of four-part composites times 4 will yield too many "false-positive" results leading to unwarranted

follow-up analyses on the individual subsamples. While it is true that some false-positives might result from this plan, the overriding concern is protection of public health and safety.

Additional time or expense resulting from follow-up analysis of individual composite subsamples that subsequently turn out to be uncontaminated was thought to be justified by the extra essential measure of safety that would result.

Nevertheless, in recognition of the close spacing of the subsamples making up the composite, it is unlikely that significant contamination would go undetected because one of the subsamples is highly contaminated and the other three are clean. A more appropriate approach for evaluating analytical results of surface sample composites would be to classify the sample directly (without multiplying its concentration by a factor of 4.0). If the sample is classified as either "contaminated but not hazardous" or "hazardous", the individual samples from which the composite was taken should be tested directly for the contaminant of interest to determine the actual concentration. Accordingly, this revision in the methods is recommended, and the last paragraph on p. 105 of the Mitigation Program is revised accordingly, by deletion of the fourth sentence, beginning, "For composite samples of surface soils, . . ."

All chemical data from composite analyses would be submitted to DHS for review as the data are generated. In some cases -- should potentially low toxicity or high naturally occurring background levels for certain contaminants warrant -- the Department might elect to waive the requirements for additional analyses on a case-by-case basis.

CONFIRMATION ANALYSIS

Comment

A certain percentage of the field screened samples should be sent to a State certified laboratory for confirmation analysis concurrent with the field screening. This will help determine the adequacy of the field screening. (Susan Solarz, Department of Health Services)

Response

Provisions for Quality Assurance (QA) checks are included in the sampling plan presented in the Mitigation Program. As specified in Section V.A, p. 78, 10% of field screening samples would be submitted to a certified laboratory for

confirmational analysis. Should the laboratory analyses indicate that the field screening technique is deficient, all samples would be retested in the laboratory.

WELL INSTALLATION

Comment

[*Hazards Mitigation Plan*] Page 94, Paragraph 5: "Groundwater wells will be installed by drilling a bore hole, using a casing hammer to drive a steel casing into the ground. The material within the casing will be removed with an air rotary drill rig."

There are many acceptable drilling methods for installing ground-water monitoring wells, including hollow-stem auger, casing hammer, mud rotary, air rotary and bucket auger. The Plan should not specify one method over another since each method has its advantages in certain drilling environments and the preferred method will be selected by the consultant overseeing the work. (James W. Augustino, Santa Fe Pacific Realty Corporation)

Response

As the commenter correctly notes, there is more than one acceptable method for installing monitoring wells. One method was described in detail on pp. 94-95 of the Mitigation Program. Other generally used techniques are acceptable if they meet approval of the agencies overseeing the site investigation (RWQCB, DHS). The consultant performing site investigations should present all potential methods to the RWQCB for evaluation, and receive approval for the preferred method(s) prior to beginning the investigations. As the commenter suggests, the specific well installation technique selected is not as important as the necessity that the method be suitable for conditions in the Project Area. The paragraph at the bottom of p. 94 has been revised, as follows:

- Groundwater wells will be installed by a suitable method. One method commonly used in the Bay area is to drill a bore hole and use a casing hammer to drive a steel casing into the ground. The material within the casing is removed with an air rotary drill rig. This method brings the cuttings out of the bore hole without introducing any materials that might later contaminate samples. As the drive casing is set into the ground, additional lengths of drive casing can be welded onto it. Upon completion of the hole, an analysis of the cuttings will indicate the depth intervals

that need to be screened to provide inflow of water for samples. Other methods of well installation could be used, as appropriate to site-specific conditions. The preferred method(s) will be selected by the consultant and agencies overseeing the work.

SAMPLE PRESERVATION

Comment

Soil cores taken during subsurface drilling may need special preservation techniques. If obvious organic vapors are noted during the geologist's initial examination of the continuous soil borings, cutting a one cubic inch sample of the suspect material and sealing it in a glass vial may not be sufficient to characterize that sample.

Soil-gas VOC analytic results should not be used to dismiss the possibility of VOC contamination in a given area. There are too many variables which could affect soil-gas results. (Susan Solarz, Department of Health Services)

Response

Regarding core sampling if organic vapors are detected during the geologist's initial examination, the following two sentences have been added to replace the last sentence of the second paragraph on p. 93 of the Mitigation Program:

- **If soil discoloration is noted during the geologist's initial examination of the continuous soil borings, small (approximately one cubic inch) samples of the suspect material will be cut from the core and preserved as appropriate (typically, sealed glass vials) to maintain the integrity of the sample. If organic vapors are detected during the initial examination of the continuous soil borings, samples of the suspect material will be taken from that sampling point using a split barrel device with brass or stainless steel liners. Upon recovery, the sample tubes will be immediately sealed, labeled, and preserved by cooling at 4°C for VOCs analysis by a State-certified laboratory.**

At least one soil sample per boring would be analyzed for VOCs using EPA Method 8240, irrespective of whether significant VOCs are detected by soil gas testing of the area. These samples will be collected and preserved as described above for samples collected when organic vapors are detected during the geologist's initial examination.

Regarding soil gas screening, there is probably no sampling design that would guarantee foolproof discovery of all contaminants in all possible situations, especially at trace concentrations. While not perfect, soil-gas analysis is one good method to detect volatile organic contaminants in soil, especially in a screening operation. Soil gas sampling is described on p. 98 of the Draft Mitigation Program. The rationale for the preferred use of soil gas sampling is discussed beginning at the bottom of p. 87 therein. An advantage of soil-gas sampling is that contaminant hot-spots may be detected by this method even though the source of the contamination might be some distance away. Of course, the method detects only volatile constituents.

As described in the Mitigation Program, sampling would not be limited to soil gas but would also include approximately 120 to 170 soil samples collected at hot-spot and random locations within the Project Area, as well as samples of groundwater, foreign materials, and soil cores. Used alone, one sampling method or another might miss some types of contamination, but together, the proposed sampling methods have a good likelihood of detecting significant or extensive contamination in the Project Area.

TRIGGER LEVEL FOR ADDITIONAL SAMPLING

Comment

[Hazardous Mitigation Program] Page 106, Paragraph 1: "Portions of the Project Area where contaminant concentrations are 50 percent or more of the concentration considered to be hazardous . . . will be subjected to more thorough characterization in a Stage 2 investigation, as previously described. For extremely hazardous substances, carcinogens, and very mobile substances, portions of the Project Area where contaminant concentrations are 10 percent or more of the concentration considered to be hazardous . . . will be subjected to more thorough characterization in a Stage 2 investigation."

We agree that concentrations below hazardous limits should be selected to trigger expanded sampling for defining potential hot spot areas, and we would accept the 50 percent criteria stated above. We do not, however, concur with the 10 percent criteria for more hazardous substances, since the hazardous criteria for those compounds is usually set at a lower number anyway. As such, 10 percent of a low threshold criteria may not be a suitable across-the-board criteria. We would recommend using the

50 percent criteria for all compounds as general guidance, except where site-specific and compound-specific factors suggest this would provide inadequate protection.

We further suggest that the percentage of a hazardous concentration, which will trigger further sampling around a point, be based instead on a statistical or spatial evaluation of data trends for each compound of interest. This evaluation should include consideration of concentrations in cases where all measured concentrations of a compound are below the hazardous concentration. Spatial interpolation techniques, such as Kriging, can also be used to interpolate concentrations between data points, thus reducing the number of additional samples needed to define the boundaries of a potential hot spot. (James W. Augustino, Santa Fe Pacific Realty Corporation)

Response

As described on pp. 85-86 of the Mitigation Program, the purpose of Stage 2 activities is to define the areal and vertical extent of hazardous substances detected in Stage 1. Therefore, the 50% criterion for hazardous substances and the 10% criterion for extremely hazardous substances were included.

With regard to the 50% criterion for hazardous substances, the commenter first states that the 50% criterion is acceptable, then recommends that it be replaced with a method based upon "statistical and spatial evaluation of the data trends." What criteria would result from this vaguely described method are uncertain.

The initial round of sampling, which would consist of a coarse grid, could miss concentrated toxic "hotspots." The 50% criterion, therefore, was adopted in order to trigger additional sampling in areas where hazardous substances might be migrating from such hotspots. Statistical techniques such as Kriging for interpolating between known sampling points would not work well for discontinuous hazardous substance deposits that do not meet the assumptions upon which the statistical technique is based.

Any hazardous substance that is detected at a concentration greater than 50% of the concentration considered hazardous, or any extremely hazardous substance, carcinogen, or very mobile substance that is detected at a concentration greater than 10% of the concentration considered hazardous in the Project Area will be investigated thoroughly, irrespective

of whether the substance is listed on Table 9, p. 102 of the Mitigation Program. A satisfactory Remedial Action Plan can be prepared and implemented only if the extent and concentrations of such materials are characterized completely. The margin of safety built into the Mitigation Program should not be reduced by modifying the "trigger levels" that would lead to Stage 2 sampling. This is particularly important for extremely hazardous materials, where even a very low concentration should trigger additional sampling to determine the extent of contamination.

RECREATION AND PARK PERSONNEL EXPOSURE

Comments

Potential exposure to toxic materials by Recreation and Park Department personnel is a serious concern. The DEIR identifies health risks from hazardous waste for areas to be developed as parks (Vol. One, p. II.93). The [Development] Agreement will need to specify in detail how a hazardous waste clean up program will be initiated and demonstrate how health risks would be mitigated. (Mary Burns, San Francisco Recreation and Park Department)

Response

Although actual threats to public health from toxics at Mission Bay are currently only speculative, health risks to all workers, residents, employees, or visitors to the Project Area are of primary concern. Details of the hazardous substance remediation program will be incorporated in the Development Agreement to the satisfaction of the City decision makers and the project sponsor.

Upon proper execution of the remediation program, no threat should exist to Department personnel. Confirmation investigations would fully characterize soil conditions in the Project Area so that any hazardous substances can be identified, treated, and removed. Remediation activities would be completed to make the site satisfactory for park use before any parcel is developed as a park.

Prior to initiation of remediation activities, to assure that remediation is appropriate for the proposed new uses, a Risk Assessment would be prepared for each contaminant that potentially poses a threat to public health; the Risk Assessment would include the identity of the contaminant, its properties, origin, concentra-

tions, pathways, and environmental fates, as well as a description of exposed receptors and an integrated exposure analysis that would assess and quantify health risks. After the Risk Assessment and a subsequent Feasibility Analysis, a detailed Remedial Action Plan that addresses public concerns would be prepared in consultation with local and state agencies to guide the actual remediation process. In addition, Health and Safety Plans that satisfy Environmental Protection Agency and National Institute of Occupational Safety and Health guidelines for work performed at sites containing hazardous substances would be prepared before any personnel actually begin working in the Project Area. These items are discussed in more detail in the Mitigation Program, Chapters IV and V.

REMOVAL OF UNDERGROUND STORAGE TANKS

Comment

The DEIR states that the project area contains underground fuel storage tanks and contaminated soils. Please be advised that removal of underground fuel tanks is subject to BAAQMD Regulation 8-40. Depending on the nature and extent of the contamination, excavation of contaminated soils also may be subject to Regulation 8-40.... (Milton Feldstein, Bay Area Air Quality Management District)

Response

BAAQMD Regulation 8-40 -- which specifies acceptable procedures for controlling emissions from underground storage tanks intended for removal, and for limiting emissions from soil contaminated with petroleum or organics -- would apply to all appropriate remediation activities in the Project Area. The permitting authority of the BAAQMD for all processes having the potential to release air pollutants is mentioned on p. 130 of the Mitigation Program.

DISPOSAL OF EXCAVATED MATERIALS

Comment

In discussing Disposal of Excavated Material on page VI.K.22, the statement that "locations of disposal sites and routing have not been determined" for the acknowledged "contaminated" materials is a grossly inadequate

assessment of potential environmental impacts. How to dispose of these materials from the Mission Bay site is one of the biggest problems for the Mission Bay project, both in terms of simply being able to accomplish the disposal, and the costs thereof, as well as the impacts upon any receiver site. A major analysis is necessary for legal adequacy of the EIR, and the applicable 'permitting' process - if any - should be discussed as well. . . .

No mitigation measure is proposed to address disposal of contaminated soils from the Mission Bay site. The developer should be required to prepare and submit a plan for such disposal to the City for City approval prior to commencement of each project phase for the area of that phase which will not impair other environmental and economic resources of the City of San Francisco, such as Bay water quality or damage to marine fisheries, and which will not pose any hazard to Mission Bay residents. (John Elberling, San Franciscans for Reasonable Growth)

Response

As stated in earlier Responses, it is not feasible to prepare a detailed plan for disposal of hazardous or contaminated materials that might be present in the Project Area so far in advance of development. The transport and disposal of contaminated soils is subject to detailed regulation under the Federal Resource Conservation and Recovery Act and the California Hazardous Waste Control Act. It is expected that over the 30-year build-out of Mission Bay, regulations pertaining to hazardous waste transport and disposal will change, as will the sites authorized under those laws to accept such wastes. Further, remediation techniques other than offsite disposal are possible. Specific methods of treatment and/or disposal of any hazardous materials found would be developed concurrently with development plans for each phase of the project; the treatment/disposal methods would be described in detail in Remedial Action Plans prepared for each contaminant of concern.

The reviewer's concern that disposal of contaminated materials may be a major problem -- in terms of both feasibility and cost -- is acknowledged, but may not be realistic. Given the range of treatment options currently available, it is certain that feasible treatment/disposal methods can be formulated for all possible contaminants. For many contaminants, off-site disposal may not be required. In part, the very number of viable treatment options -- coupled

with rapid developments in the field of hazardous waste management -- makes preparation of specific remediation plans impractical in advance of characterization. In addition, the nature, location, extent, physical matrix, chemical properties, and health threats of contaminants must be identified and evaluated prior to final remediation planning. Additional discussion of the proposed testing/remediation program is presented above under "Approach to Hazardous Waste Investigation." Principal remedial alternatives applicable to Mission Bay are described in the Mitigation Program, Chapter VI, Section D, pp. 116-131. The reviewer's concern over cost of remediation is addressed under the "Remediation Costs, Financing, Insurance, and Guarantees for Transfer of Remediated Property" Response, on pp. XV.L.16-XV.L.17.

DISPOSAL OF DREDGE SPOILS

Comment

. . . If mitigation efforts include dredging the Mission Creek area, what will be the impact on the immediate area from that dredging, and where will the toxic wastes be taken at what cost? (San Francisco Sierra Club, San Francisco Tomorrow, and the Mission Bay Clearinghouse)

Response

Dredging of the China Basin Channel (referred to as Mission Creek by the commenter) is an element of Alternative A. Aquatic scientists and regulatory agencies now generally agree that the primary impacts of dredging occur not to water quality in the dredged area or in the disposal area, but to the benthic (bottom-dweller) environment at the disposal site. Sediment testing procedures emphasize the need for compatibility between the dredged material and the disposal site substrate.

Disposal of dredged sediments is an unresolved problem affecting many new Bay-related projects, as well as ongoing maritime activities in the Bay. Dredged material disposal in the Bay Area is regulated by the EPA, San Francisco RWQCB, and U.S. Army Corps of Engineers. The current disposal site, off Alcatraz Island, is proving unsatisfactory, and EPA proposed in early 1989 to restrict future disposal at this site. At this time, no alternative sediment disposal sites have been designated, either upland, along the Bay margin, or outside the Golden Gate. Should the sediments from China Basin Channel be contaminated above acceptable levels, no approved sediment disposal site would be

available in the Bay Area as the matter stands currently. This issue is now being discussed by the responsible agencies and, because of its importance for maritime activity in the Bay, is expected to be resolved far in advance of the time when any dredging for Mission Bay would occur.

ODOR EMISSIONS

Comment

The DEIR discusses potential odor problems that could arise due to hydrogen sulfide generation in China Basin Channel. The DEIR implies that odors are a problem only if they cause human health effects, and not if they are "of nuisance nature only." We believe that odors can be a significant nuisance. Indeed, citizen complaints regarding odors can trigger BAAQMD Regulation 7 limits on emissions of odorous substances. Under Alternatives A and B, residential areas would be located near China Basin Channel. We recommend that the Final EIR discuss in greater detail potential exposure of project area residents and employees to objectionable odors. Measures to mitigate potential odor problems should be considered. (Milton Feldstein, Bay Area Air Quality Management District)

Response

Odors could result either from exposure of Bay muds or from the Channel Street Pump Station, as discussed in the EIR on pp. VI.F.20-VI.F.21 of Volume Two, VI.F. Air Quality.

Odors from the Channel Street Pump Station would be subject to Regulation 7 and Regulation 9, Rule 2 of the BAAQMD's Rules and Regulations. Under Regulation 7, the BAAQMD may impose limitations if ten or more odor complaints are received within a 90-day period. Regulation 9, Rule 2 addresses H₂S, one of the more noxious sources, setting ambient standards of 0.06 ppm for a three-minute averaging period and 0.03 ppm for a one-hour averaging period.

As noted in the EIR, no odor complaints have been received by the BAAQMD regarding the Channel Street Pump Station since its construction in 1980, nor have any complaints been received regarding similar pump stations elsewhere in the City. The potential for odors from the Pump Station to annoy new residents of the project is considered on this basis to be low. Should an isolated odor episode occur, however, the operations of the Pump Station likely would

not be limited by the BAAQMD under Regulation 7 because of Section 110.4 of Rule 2 of the regulation, which exempts sources that emit strong odors "for reasons of public health and welfare, and where no suitable substitute is available and where best modern practices are employed."

A more likely source of continuing odor complaints, specifically H₂S odors, is the Bay muds adjacent to the project that would be exposed at low tide. Potential impacts from this source are discussed in the EIR on p. VI.F.21 of Volume Two. This primarily natural source would not be subject to BAAQMD Regulations 7 or 9. It should be noted that settled matter from Pump Station overflows is probably contributing to the organic content of the muds, especially those close to the Pump Station. The potential for nuisance odors from exposure of Bay muds, and complaints from residents, cannot be determined quantitatively, depending as it does upon the extent of muds exposed, their organic and oxygen contents, the oxygen content of local inshore areas, and weather factors such as temperature, and wind speed and direction. No mitigation is suggested because no practical methods exist for enhancing the oxygen content of the muds or reducing their organic content.

STAFF-INITIATED TEXT CHANGES FOR HAZARDOUS WASTES AND CONSTRUCTION

The following staff-initiated revisions for the Mission Bay Draft EIR are made to the Hazardous Wastes subchapter in Volumes One and Two; to Appendix L in Volume Three; and to the hazardous wastes discussion under "Construction" in Volume One.

Volume One - Chapter I. Executive Summary (Hazardous Wastes)

The word "draft" is deleted from the last sentence in the paragraph at the top of the right-hand column on p. I.4. As revised, this sentence states:

- The Mission Bay Hazards Mitigation Program (a background document for the EIR on file at the Department of City Planning) addresses hazardous materials in more detail, outlines an investigation program, and provides a framework for any necessary clean-up.

Volume One - Chapter II. Highlights & Conclusions (Hazardous Wastes)

On p. II.89, the word "draft" is deleted from the last sentence of the paragraph following "Hazardous Wastes." As revised, this sentence states:

- The Mission Bay Hazards Mitigation Program, a background document for the EIR, addresses hazardous materials in more detail, outlines an investigation program, and provides a framework for any necessary clean-up.

The word "draft" is deleted from the last sentence in the right-hand column on p. II.92, which continues on p. II.93. As revised, this sentence states:

- The Mission Bay Hazards Mitigation Program, a background document for the EIR, addresses hazardous materials in more detail and includes a parcel-by-parcel summary of industrial activities, information from soil borings, discussion of site investigation and clean-up approaches, recommendations for additional investigation, and a framework for the phasing of any necessary clean-up.

The word "draft" is deleted from the first sentence in the first full paragraph, left-hand column, on p. II.93. As revised, this sentence states:

- The Mitigation Program presents a framework for further site investigation and clean-up under Alternatives A and B.

The second sentence of the second paragraph under "Health Risks" on p. II.93, left-hand column, is revised to state:

- Clean-up crews and transporters would face direct risks; indirect risks to nearby residents, workers, and wildlife could also occur through contact with the materials at the site or in transit.

Volume Two - VI.N. Hazardous Wastes

On p. VI.N.2, the first two sentences in the first paragraph under "San Francisco Public Works Code" are revised and "Hazardous Soils Analysis Ordinance," in the first and third sentences, is changed to lowercase letters, as follows:

- Article 20 was added by Ordinance No. 253-86 ("Analyzing the Soil for Hazardous Wastes," adopted June 27, 1986, and amended in August, 1988; also known as the hazardous soils analysis ordinance) to require a site history and soil analysis for building permits on properties in designated portions of the City suspected of being contaminated with hazardous wastes. The ordinance applies only to proposed work that would involve disturbance of more than 50 cubic yards of soil within designated City areas, on properties that have not been continuously zoned for residential uses since 1921. The hazardous soils analysis ordinance is discussed in Appendix L., p. XIV.L.8.

In the second paragraph under this heading on p. VI.N.2, the first, fourth and sixth sentences are revised and "Hazardous Soils Analysis Ordinance", in the fourth sentence, is changed to lowercase letters. As revised, this paragraph states in its entirety:

- The designated portions of the City include property located bayward of the original high tide line as indicated on a map of San Francisco, available from the Department of Public Works; the entire Project Area is included in this designated area. Other areas may be subject to the provisions of the ordinance if designated by the Director of Public Works (DPW). Pursuant to DPW regulations, the site history must include properties within 100 feet of the perimeter of the proposed excavation area. The hazardous soils analysis and regulations require that a history of the site proposed for disturbance be prepared by a person or persons with experience in hazardous waste, San Francisco history, and engineering or geology; that the soil be sampled by a registered engineer or engineering geologist or certified laboratory; and that the soil samples be analyzed by a certified laboratory for the presence of hazardous materials. The site history and soil analysis must be submitted to the Directors of Public Works and Public Health prior to issuance of the building permit application. If hazardous waste is found in the soil samples, the applicant must submit a site mitigation, or clean-up, plan. Once site clean-up is completed, the appropriate certification is submitted to the Director of Public Health. The building permit application will then be deemed complete, and the application will be considered by the City.

A new entry is made to Table VI.N.2 on p. VI.N.19 under "Material." "Lead" is added

after "Diesel fuel/Gasoline," and, under "Hazardous Properties," an "X" is added to the Toxic column and to the "Bioaccumulative" column.

On p. VI.N.20, last paragraph, the word "draft" is deleted from the first sentence and a new sentence is added after it, as follows. The document title cited in the first sentence is underlined in the EIR; the underline beneath this title in the following change therefore does not indicate a revision.

- A separate document, the Mission Bay Hazards Mitigation Program (the Mitigation Program), has been prepared and is incorporated by reference into this EIR./8/ Information in that document is summarized in the remainder of this paragraph.

In Table VI.N.3 on p. VI.N.30, an "X" is added to the "Physical" column, under "Treatment," for "Lead Tetraethyl/Tetramethyl."

In the first sentence of the first full paragraph on p. VI.N.33, "More than 500 ppm" is deleted and "would" is changed to "could." As revised, this sentence states:

- As another example, if residual DDT were present in soils in the Project Area, and if playing children should ingest soil particles contaminated with DDT, then symptoms could include facial tingling, headache, malaise, sore throat, and fatigue.

On p. VI.N.46, note /8/ under "Impact" is revised to state:

- /8/ Environmental Science Associates, Inc., Mission Bay Hazards Mitigation Program San Francisco, April 1990.

Volume Three - Appendix L. Hazardous Wastes

On p. XIV.L.8, the first, second and fourth sentences in the first paragraph under "Local Regulations" are revised. As revised, this paragraph states in its entirety:

- San Francisco "Analyzing the Soil for Hazardous Wastes" Ordinance #253-86 Part II, Chapter 10 Public Works Code, Article 20, San Francisco Municipal Code establishes, as of June 27, 1986, and as amended August 2, 1988, the requirement for a hazardous wastes analysis in conjunction with applications for certain building permits. A hazardous wastes analysis

consisting of a soil analysis and site history is required for building permits if more than 50 cubic yards of soil are to be disturbed, and either the site is bayward of the historic high tide line as indicated on a map of San Francisco, available from the Department of Public Works, or is otherwise required by the Director of Public Works. If evidence of soil contamination is found, a site mitigation plan must be submitted, approved, and carried out prior to issuance of a building permit. The types of analyses must include inorganic persistent and bioaccumulative toxic substances listed in 22 CAC, Section 66699; volatile organic toxic pollutants listed for 40 CFR, Part 122, Appendix D Table II; PCBs, pH levels; flammability; cyanides; sulfides; methane and other flammable gases; and any other hazardous wastes designated by the Directors of Public Works or Public Health.

In the first paragraph on p. XIV.L.9, the third sentence through the last (and the two complete sentences in the first paragraph on p. 21 of the Mitigation Program) are deleted and replaced with the following:

- If, on the other hand, hazardous wastes are detected in the soil samples, a site mitigation report must be prepared by a "qualified person" and implemented by the applicant before the Department of Public Works will act on the building permit application. The site mitigation report will describe any problems posed by the hazardous wastes and explain how the material will be handled in order to minimize threats to public health and safety. As part of report preparation, additional soil sampling might be called for to define the extent of contamination.

The site mitigation report will contain the following information:

(1) A determination by the qualified person whether the hazardous wastes in the soil pose significant environmental health and safety risks, and if so, detailed measures recommended to mitigate those risks.

(2) A statement signed by the report preparer certifying that he/she is qualified within the meaning of the law, and that the mitigation measures identified in the report will mitigate significant environmental or health and safety risks.

Persons qualified to prepare site mitigation reports include registered environmental assessors and certified engineers, geologists, and industrial hygienists.

When completed, the site mitigation report will be submitted to the Department of Public Health and the Department of Public Works. Upon receipt of the report and at the applicant's request, the Director of Public Works will issue any permits necessary for the applicant to carry out site mitigation, and clean-up work can proceed accordingly.

To complete the process, the applicant must certify under penalty of perjury that either:

- (1) the qualified person has determined that no hazardous materials in the soil are causing or are likely to cause significant environmental or health and safety risks, and the qualified person recommends no mitigation measures, or
- (2) the applicant has performed all mitigation measures recommended, and has verified that mitigation is complete, or
- (3) the applicant has received third-party certification from the appropriate state or federal agency that mitigation is complete.

Certification must also contain a formal statement that the applicant remains responsible for site mitigation and retains any associated liabilities.

Upon receipt of the soil analysis report, the site mitigation report (if necessary) and final certification from the applicant that mitigation either is unnecessary or has been completed, the Director of Public Health will so notify the Director of Public Works in writing. Thereafter, the Director of Public Works will consider the building permit application to be complete and may approve or deny the application.

Volume One - Chapter II. Highlights & Conclusions (Construction)

In the "Hazardous Wastes" discussion, the following change is made to the fourth sentence of the second full paragraph, left-hand column, on p. II.99:

- Indirect hazards to nearby residents, workers, and wildlife could also occur through contact with the materials at the site or in transit.



M. MISCELLANEOUS MITIGATION MEASURES

Comment

We have reviewed the suggested mitigation measures for impacts of the project on land use, business activity, and employment (particularly on port activities), transportation (rail freight service), geology and seismicity, hydrology and water quality, vegetation and wildlife, and hazardous wastes. These mitigation measures appear to be reasonable and appropriate and they should be given full consideration. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

The Comment is noted.



N. STUDY APPROACH AND APPROVAL PROCESS

Comments

This EIR does not tell us what kind of an EIR this is or how it will be used . . .

We might have actually completed a program EIR for China Basin plan amendments. This would have been the first step before a specific project was developed. But no, we have been tied to the old MOU as a project and have planned backwards around that concept. Would not it have been better for the city, [if] we have dealt with such policy questions as what to do with the Port or how to meet the affordable housing needs of the city or how to create guarantee a jobs/housing balance in the city to keep things livable before we were looking at a project.

We have testified many times in the past about the pitfalls of following this parallel track in planning, of having a proposal on the table at the same time that you're doing the zoning or the area plan. Perhaps we would have been better off if we had done that sequentially up to this point and if we had just looked at the China Basin area and said: Okay, what decisions do we want to make about the port? What decisions do we need to make in the City about providing a surplus of affordable housing to meet the huge deficit in the City -- and have made some of those decisions without an MOU and a particular preferred plan driving that process. (Regina Sneed, Mission Bay Clearinghouse and San Francisco Tomorrow)

In [the] case [of Mission Bay], if you recall, . . . we had a process which, in effect, said that the developer would put funds, and really, in effect, set up the scope of what will be done as a study to prepare for an EIR, develop a data base for an EIR, and really almost, in effect, have continuing involvement with the staff. And in prior testimony, even four years ago, it was very clearly expressed of your prior Commission that that process was a horrible process.

It was thought it was done with the Downtown Plan when the Chamber, in effect, provided the data base for the EIR for the Downtown Plan. And this was, in effect, a completely irresponsible response by the City, where the City department was being collapsed as part of the development process of the developer. What was always done in the past about any project is, a developer -- and you have done this consistently except for this developer -- would come before you about a

proposal for either a zoning change; and if it was required, a Master Plan change; a specific project, and also an EIR put together based on their funding and so forth, completely apart from what was involving the City's staff and depth. The EIR even would have been separate, done by the consultant of the developer. Then the department itself would have been an objective body, and the Commission, to review what is the proposed project, to review a Draft EIR process, and then come to a Final EIR.

Right now you don't exist as a Commission. You don't exist as a department. You're an extension of Santa Fe Pacific, Santa Fe and also Southern Pacific. You are really, in effect, jointly working out changes in the Master Plan, changes of what would be a development agreement, changes in terms of reclassification of properties. This is really a horrible process.

You're absolutely correct. What you have here is really a fraud in terms of what deals with environmental review. There is no project before you. There is really no project that can be described about impacts. There is no EIR before you. This is a non-hearing, non-process approach. . . .

This is the process . . . begun by another administration. We expected when we voted last year that we would have a new administration and a new Commission and, hopefully, something that will get us back on track. We'd like to see from your actions and your response to process whether we are back on track. (John Bardis)

Response

The Mission Bay EIR is a program EIR, as defined in the California Environmental Quality Act (CEQA) State Guidelines Section 15168. This is described in the EIR on p. IV.1 of Volume Two, Chapter IV. Study Approach and Organization. The program EIR format was selected precisely because it must evaluate alternative areawide programs for the Mission Bay Project Area. In the absence of a "preferred" plan for the site, the Draft EIR evaluated a range of alternatives that encompass a spectrum of land use objectives based on input received in the planning process.

The advantage of this program EIR analysis is environmental impact considerations directly associated with potential components of a Mission Bay Plan can be identified at an early point in the planning process. Such considerations can themselves help refine

planning objectives for Mission Bay. In addition, the program EIR assists the planning process by developing various databases and new research with which the general public, decision-makers and City staff can better evaluate potential aspects of a plan and make more informed decisions.

As stated on p. I.1 of Volume One, Chapter I, Executive Summary, the Draft EIR analyzed three development Alternatives and ten variants on them for the 325-acre Mission Bay Project Area. Alternative A is based on the land use program submitted by Santa Fe Pacific Realty Corporation in its application for environmental review in 1986 and is most similar to the 1984 Mayor's Letter of Understanding (MOU) (see p. IV.2 of Volume Two). The other Alternatives and most of the variants do not reflect the Mayor's Letter. Alternative B is intended to incorporate higher quantities of housing and open space than those contained in Alternative A, in response to comments from various citizens and community groups. The "No Project" Alternative N, required by CEQA for analysis in EIRs, allows the evaluation of development of industrial uses under existing zoning on the site.

While the Alternatives establish the parameters of the program analysis, the ten variants provide a fine-tuned evaluation of impacts that isolate potential land use changes as identified in response to ongoing public comment and review conducted during the planning process. (In addition to the ten variants in the Draft EIR, two variants are discussed in this volume in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and pp. XV.P.27-XV.P.46.) One of those, Variant 12, reflects Santa Fe Pacific's Development Agreement Application.

The discussion on the approval process for Mission Bay (see pp. V.40-V.41 of Volume Two, Chapter V. The EIR Alternatives and Approval Process) summarizes the actions that are covered by the EIR. They include a Subarea Plan or Special Area Plan for the Project Area that would amend the objectives and policies of the Central Waterfront Plan for the China Basin and Central Basin subareas.

It is anticipated that, based on the broad scope of the analyses, the Mission Bay EIR would satisfy applicable provisions under CEQA to allow the City to adopt amendments to the City's Master Plan, a development agreement, and a zoning reclassification as necessitated by whatever plan is adopted for Mission Bay (assuming the environmental effect of each program component of the Plan is covered in the range of EIR

analyses). However, this program EIR is not the only environmental review document that is likely to be needed. Construction and/or implementation of development phases will be subject to subsequent environmental evaluation (including public review and comment) that examines in detail environmental implications of proposed designs that are not available now.

Applicable policies are reviewed in the EIR, including those related to the Port (see Volume Two, VI.A. Public Plans, Policies and Permits). The balance between jobs and housing supply is also discussed (see pp. VI.C.67-VI.C.92 of Volume Two, VI.C. Housing and Population, and XV.C. Housing and Population, pp. XV.C.3-XV.C.30). As indicated on p. III.5 of Volume Two, Chapter III. Background and Area Description, those issues will be considered by decision-makers in their deliberations on Mission Bay.

The first sentence of the second paragraph under "Objectives of this EIR" on p. III.5 of Volume Two is revised as follows to clarify the intent and purpose of the Mission Bay EIR:

- **The principal purpose of the EIR is to provide the City Planning Commission, other public decision-makers, and the public with a clear and objective assessment of the environmental consequences of development in the area based on the Alternatives and variants described, and to identify mitigation measures to eliminate or minimize adverse impacts.**

With regard to the preparation of the EIR, it should be noted that the San Francisco Department of City Planning assumes full responsibility for the contents of the EIR. Although most of the analyses were initially prepared by Environmental Science Associates and various consultants, all material has been thoroughly reviewed and revised as necessary by City staff. The Office of Environmental Review (OER) in the Department of City Planning maintains a neutral approach to the EIR process. The project sponsor is not permitted to pre-review any portion of the EIR, so that the consultants' professional opinions and analyses are protected and presented in full to City staff. Any changes to the analyses are determined by OER staff, which may take into account review by City staff and the project sponsor. These are standard procedures for preparing EIRs in San Francisco. The preparation of this EIR has been conducted pursuant to all applicable provisions of CEQA and the State CEQA Guidelines.

Although some of the funding for the Mission Bay planning and environmental review work has been provided by the project sponsor, much of the work also has been carried in the Department of City Planning work program and budget. In any case, as a stated condition in Board of Supervisors Resolution 345-85 (adopted April 10, 1985), the City's acceptance of funds from Santa Fe Pacific does not constitute an approval of, or comment upon, any plan or development agreement between the City and the project sponsor.

Comments

A fundamental requirement of CEQA is that an EIR describe the project it is purporting to analyze. The Mission Bay EIR does not satisfy this requirement. It characterizes itself as an alternatives analysis that brackets all possible development programs that are currently contemplated by the City. This is not near enough. Without an honest and meaningful description of the determinants and objectives of the City's planning effort, the EIR provides no clue as to the standard against the alternatives will be judged by the decision makers, and thereby deprives the public of a meaningful opportunity to comment or to judge whether other alternatives should be considered.

CEQA also requires that an EIR include "a statement briefly describing the intended uses of the EIR." The EIR states that its objective is to "analyze alternatives that among them cover the range of land use program elements and issues contemplated in the on-going planning effort for Mission Bay." ([p.] II.2.) This is not sufficient because it does not inform the public how this EIR will be used. The EIR states that it is being prepared in response to an application for environmental evaluation submitted by Santa Fe ([p.] III.5), but it does not describe the Santa Fe project which is the subject of that application.

If there is indeed a proposal that is under consideration, it must be disclosed and analyzed in the EIR. If not, this EIR is really no more than a planning study, and cannot be used as the environmental document for a development agreement or master plan for a specific development.

The EIR's theory of analyzing alternatives that among them bracket all feasible and reasonable development programs is illogical. First, CEQA requires that an EIR consider all reasonable alternatives which mitigate or avoid a project's impacts consistent with achievement of basic

project goals. In the absence of an identified project, there is no analytical basis for defining project goals or determining whether alternatives accomplish them, are feasible, or mitigate or avoid predictable impacts. . . .

. . . [Another] problem with the EIR's overall approach: the impacts of a given development program result from the synergistic combination of its constituent elements. Alternative C [EIR Hearing Variant] contains a different combination of housing, employment and open space than either of the other three alternatives (A, B and N), resulting in a surplus of housing, (more nearly) adequate open space, and fewer office jobs. While its individual housing, open space and employment figures may be bracketed in individual instances by alternatives A, B, and N, its overall impact is not. (Zach Cowan, Mission Creek Conservancy, Sierra Club, San Francisco Tomorrow)

Variations on the Alternatives. The existence of so-called "Variations on Alternatives" gives me hope that the bare A, B, and N choices are not meant to be taken seriously, but must be substantially modified by these and other, as yet unlisted, variations. (Richard H. Moss, Potrero Boosters and Merchants Association)

Response

The EIR describes the history of recent development proposals and planning efforts for the Mission Bay Project Area. An updated chronology of that planning process is provided in XV.S. Summary of Testimony Related to the Mission Bay Plan, pp. XV.S.1-XV.S.3. As discussed in the EIR, the City, with funds from Santa Fe Pacific, undertook a planning process that has spanned several years, involved numerous public hearings and community presentations, and produced several comprehensive planning reports, as well as 20 special studies on selected topics. One product of that effort was The Mission Bay Plan, Proposal for Citizen Review, published in January 1987. A further refinement of that Plan, entitled The Mission Bay Plan, Proposal for Adoption, was published in March 1990.

As stated in the EIR, the City's objective was to produce "an implementable development plan for a mixed-use Mission Bay community" (see p. III.4 of Volume Two, Chapter III. Background and Area Description). Volume One of the EIR summarized the land use program which the City proposed in the Mission Bay Plan, Proposal for Citizen Review. (See p. II.2 of Volume One.)

XV. Summary of Comments and Responses

N. Study Approach and Approval Process

The policies and objectives set forth in that Mission Bay Plan represent "the determinants and objectives of the City's Planning effort" requested in the Comment. The Mission Bay Plan was widely distributed before publication of the Draft EIR. Copies of the Proposal for Citizen Review and the Proposal for Adoption may be obtained from the Department of City Planning.

The policies and objectives identified by the City for the Mission Bay Project Area are too numerous and detailed to be duplicated in the EIR. Nor does CEQA require such duplication. The EIR should be viewed within its proper context, as part of the overall planning and environmental review process to evaluate possible land use and development alternatives for Mission Bay. When viewed in that context, the relationship between basic project goals and the EIR Alternatives and variants is more readily apparent.

One of the Comments critiques as "illogical" the "EIR's theory of analyzing alternatives that among them bracket all feasible and reasonable development programs. . ." because, "in the absence of an identified project, there is no analytical basis for defining project goals or determining whether alternatives accomplish them, are feasible, or mitigate or avoid predictable impacts." The Comment implies that CEQA requires an EIR to identify a specific proposal or preferred alternative. In fact, although selection of a preferred alternative is permitted, CEQA Guidelines recommend that the environmental review process begin as early as possible, before the agency has become committed to a particular project. CEQA Guidelines Section 15126 (d), which establishes guidelines for analysis of alternatives, states merely that "if there is a specific proposed project or a preferred alternative, explain why the other alternatives were rejected in favor of the proposal if they were considered in developing the proposal." Thus, the Guidelines make clear that CEQA does not require that an EIR contain a preferred alternative or specific proposed project.

It is not "illogical" for an EIR to attempt to analyze "alternatives that among them bracket all feasible and reasonable development programs." In fact, CEQA requires analysis of a reasonable range of alternatives which could feasibly attain the basic objectives of the project. (CEQA Guidelines Section 15126 (d).)

As stated in the EIR, "the 'Plan' for Mission Bay is recognized to be an evolving program, one that will continue to be refined in response to public review and comment, and ongoing negotiations between the City and project sponsor even after

the Final EIR is completed" (see p. II.2 of Volume One). Therefore, the approach taken in the EIR was to analyze three alternative development programs at equal levels of detail. In addition, ten variants on the EIR Alternatives were discussed and analyzed. (The Mission Bay Plan is similar to Alternative A, analyzed in detail in the EIR [see p. IV.2 of Volume Two, Chapter IV. Study Approach and Organization].) This approach was taken in order to satisfy an important CEQA objective, that of incorporating environmental considerations into project conceptualization, design and planning. (CEQA Guidelines §15004 (b).) The EIR's approach was intended to exemplify the principle advanced by the State Office of Planning and Research (OPR), that "early preparation enables agencies to make revisions in projects to reduce or avoid adverse environmental effects before the agency has become so committed to a particular approach, that it can make changes only with difficulty." (See OPR discussion following CEQA Guidelines §15004.)

The EIR identifies the environmental impacts associated with the various Alternatives, and provides further analysis of ten variants of those basic Alternatives. Thus, the EIR does present the decisionmakers and the public with sufficient information to determine whether a given Alternative or variant is feasible, or mitigates or avoids predictable impacts.

Until the decisionmaking bodies undertake the formal hearing and review process on the project, there is no way to determine whether the EIR's analysis of the various Alternatives and variants is broad enough to encompass the evolving plan concepts and programs which they may seek to consider. This is the case for every project subject to CEQA in so far as preparation of the EIR must precede the approval action.

The Mission Bay EIR was designed to provide information to decisionmakers about a broad range of alternatives in order to facilitate the evolution of the plan and the programs associated with a project of this magnitude and importance. In fact, the organizations on whose behalf the first Comment was submitted presented a proposed land use program alternative referred to in the Comment as "Alternative C," which is discussed at length as Variant 11 (EIR Hearing Proposal) in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26.

One Comment stated that "the impacts of a given development program result from the synergistic combination of its constituent elements"; thus, the commenter concluded that while the "individual housing, open space and employment figures may

be bracketed in individual instances by alternatives A, B, and N, its overall impact is not." The analyses of the environmental impacts of "Alternative C" do not support this criticism of the EIR approach. (See Variant 11 [EIR Hearing Proposal] and Variant 12 [Development Agreement Application] in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26 and pp. XV.P.27-XV.P.46, respectively.)

Those additional variants involve a mix of residential, commercial and other uses which, while not identical to the basic Alternatives A, B or N, are nonetheless "bracketed" on both the high and low end of the spectrum by the amount of square footage per each use in the basic alternatives. The analyses of the proposed new combinations of land uses for each variant do not reveal that there would be new significant effects not discussed previously in the Draft EIR, or that significant effects previously examined would be substantially more severe.

This result is not surprising considering that Variant 11 (EIR Hearing Proposal), referred to by one of the commenters as "Alternative C," closely parallels Alternative B and Variant 12 (Development Agreement Application) closely resembles Alternative A. For example, the mix of land uses proposed by citizen groups in Variant 11 would result in 1,940 fewer residents and only 490 more jobs than Alternative B. (See Table XV.P.1 in XV.P. Alternatives and Variants, p. XV.P.7, for a comparison of the major attributes of Variant 11 compared to those of Alternatives A, B and N at build-out [year 2020].)

While these variations of the mix of uses proposed for the Project Area may reflect a different emphasis in terms of basic policy objectives, they do not yield significantly different environmental impacts. Thus, the Mission Bay EIR provides decisionmakers with sufficient information concerning the environmental consequences of a reasonable range of alternative development programs which meet the basic objectives of the project (e.g., "an implementable development plan for a mixed-use Mission Bay Community.")

Comment

The [EIR] raises serious methodological questions which undermine the integrity of the report. Also, the level of detail (much of it arbitrarily unpleasant -- e.g., the "required" demolition of Fire Station 30 in Alternative B) achieved in development scenarios without basic facts in relation to the site or the consideration of

basic relationships to the immediate urban environment belie the professional adequacy of the document. (Leigh Kienker)

Response

The commenter cites the demolition of Fire Station 30 in Alternative B as an arbitrary detail that undermines the integrity of the report. On the contrary, in order to demonstrate the range of possible environmental impacts (including impacts on historic resources) due to development of Mission Bay, it is appropriate that one of the Alternatives analyzed incorporate a development program in which the fire station would be demolished. That is an appropriate assumption for the analytical purposes of the EIR. It does not imply that the fire station necessarily would be demolished under any plan eventually agreed upon for Mission Bay. It simply brackets the possibilities and highlights the fact that there is such a resource within the Project Area that could be lost unless provision was made to retain it.

Comments

. . . The issue of time and brevity in the [EIR] process is one thing, but the kind of opportunity and obligation that you have in dealing with this huge project is one where I hope you can continue to weigh the effects on the community versus the time frame of the development. (Nancy Nederhauser, Potrero League of Active Neighbors)

We also believe that Santa Fe Pacific Realty Corporation should be given some flexibility in developing the project, not just in the interest of fairness, but to encourage and enable the project to change as the community's needs and economy changes. Without this ability, we don't see a truly viable project. It's impossible to second guess the City's needs over a span of 20 to 30 years. And the developer should rightly refuse to build anything it feels it can't market. (Gloria Van Winkle, Potrero Boosters and Merchants Association)

Response

One task of the decision-makers considering Mission Bay will be to ensure that in the development agreement, flexibility allowing changes in context or economics to be considered over time is balanced with certainty that the City's needs are met.

Comment

You have with the Draft EIR an opportunity really that is very rare, 300 acres, a project which undoubtedly is the largest one in sight. The EIR should really reflect something of that scope. The EIR should in that respect be addressing, in a sense, how this project really meets and fits the needs of the City and to what extent it really impacts the overall picture of the City.

The EIR should have alternatives for that reason that may not have any popular support, you might say, but certainly very valid ones which have been mentioned in the past.

One, for example, would be the issue or the possibility of actually taking over the properties by eminent domain and the City proceeding on its own to really apply for all the zoning and massive plan changes and then proceeding with the development. And then, of course, benefiting from the value that has been enhanced in the properties through those legislative actions which only the City can provide, which might be of a magnitude of \$5 billion.

And maybe in that project, . . . they could do maybe all housing [or subsidize more housing through eminent domain]. . . . That is an alternative that is rather fundamental and not to be addressed in that possibility which will create that kind of housing to meet and produce the impacts on the City what is happening in termination of a housing crisis would be a rather serious oversight. . . .

. . . And it's very interesting that we would have an EIR that would propose and support alternatives which don't go to the point where we include that much housing in the project, and then demonstrate that that would have a very beneficial effect in terms of the impact to the rest of our City in terms of the demolitions and what happens in the neighborhoods. (John Bardis)

Response

The Mission Bay EIR is one component of the overall public program established to adopt a plan for this major development opportunity site. The three Alternatives and 12 variants analyzed reflect the range of land use program possibilities identified during the public planning process that responds to SFP's stated desire to develop Mission Bay. The EIR must be responsive to that planning process by providing information on potential environmental impacts associated with the various program options being considered. Where impacts of those planning options are

identified, it is the responsibility of the EIR to identify possible mitigation measures to reduce or eliminate them.

The EIR does subject each of the Alternatives to an analysis of the employment and housing implications for the Mission Bay Project Area, the greater downtown area (referred to as "Downtown & Vicinity"), the City and the Bay Area region. It concludes that housing in Alternatives A and B would meet the housing supply needs of Mission Bay employees. However, Alternative A would not provide a sufficient number of affordable units. In addition, under both Alternatives A and B, there would be some households containing Project Area workers with incomes below the levels needed to pay the affordable housing prices assumed in the analysis. Alternative N would not meet either supply or affordability needs of the project employees.

The prospect of declaring eminent domain over the Project Area is not being contemplated. Should the City propose to exercise its powers of eminent domain to develop Mission Bay, that City-sponsored project would be subject to separate environmental review at that time.

Comment

. . . I am actually going to compliment the EIR, which I [have] never been able to do in a decade of this.

It's readable. It's understandable. It clearly focuses on the issues. That's the good news.

The bad news is some of the issues clearly focus, especially in terms of cumulative impacts, at really frightening implications. . . .

What I would like the Planning Commission to do when it looks at the Mission Bay EIR is not just look at the Mission Bay site specific impacts. This EIR is a wealth of information about the cumulative impacts that are going to happen and how nobody around the bay is really building affordable housing. You should start to develop policies and take actions on transit, transportation, and affordability for housing that address the cumulative impacts, because that is the scary thing about the EIR. It's a warning. We are giving a ten-year warning on the year 2000. Don't get lost in the site specific issues of this EIR. Take advantage of the information to start formulating policies to address the cumulative impacts of development in the City. (David Jones, San Franciscans for Reasonable Growth)

Response

The EIR presents information on both cumulative and project-specific impacts of the Alternatives in 2000 and 2020. Mitigation measures are also identified. Public decision-makers will consider all of this information, along with public testimony, in their deliberations on Mission Bay.

STAFF-INITIATED TEXT CHANGES FOR STUDY APPROACH AND APPROVAL PROCESS

The following staff-initiated revisions to the Mission Bay Draft EIR are made in the Study Approach & Organization discussions in Volume One; Chapter IV. Study Approach and Organization, in Volume Two; the Approval Process subchapter in Volume One; Chapter V. The EIR Alternatives and Approval Process, in Volume Two; and Appendix A. The EIR Alternatives, in Volume Three.

Volume One - Chapter I. Executive Summary (Study Approach & Organization)

On p. I.1, left-hand column, the first sentence under "Study Approach & Organization" is revised to state:

- The Mission Bay EIR analyzes three development Alternatives, and twelve variants on those Alternatives.

On p. I.2, left-hand column, the first three sentences under "Approval Process" are deleted and replaced with the following:

- The Final EIR consists of the revised Draft EIR (Volumes One through Three) and the Summary of Comments and Responses (Volume Four). The Final EIR requires certification by the City Planning Commission; no city approvals for the project may occur until certification takes place.

Volume One - Chapter II. Highlights & Conclusions (Study Approach & Organization)

On p. II.4, several changes are made to the first paragraph, left-hand column, under "Study Approach & Organization." The second sentence is deleted, and the sixth sentence is deleted and replaced with the following:

- Volume Four summarizes and responds to oral and written comments on the Draft EIR.

Together, the revised Draft EIR (Volumes One through Three) and the Summary of Comments and Responses (Volume Four) comprise the Final EIR for Mission Bay.

In the seventh sentence of this paragraph, the number of variants is changed, as follows:

- The Mission Bay EIR analyzes three development Alternatives, and twelve variants on those Alternatives.

In the right-hand column on p. II.4, this change is made also in the next-to-last sentence:

- The EIR also analyzes, in less detail, twelve variants of the Alternatives.

The following new sentence is added to the end of this paragraph:

- Together, the Alternatives and variants encompass the range of land uses raised for consideration in the Mission Bay planning process.

Volume Two - Chapter IV. Study Approach and Organization

The paragraph at the top of p. IV.3 is revised to state:

- Chapter VII. Variations on Alternatives, analyzes 12 variants on the EIR Alternatives. The variants include: housing under no-project conditions; retention of port-priority uses east of Third Street; reduced overall housing densities; increased retail, commercial, and community facilities; office space on some port land; and higher heights for some housing north of the channel. Also discussed are the implications of permitting office uses in S/LI/RD space; varying the percentage and size of units in affordable housing; retaining the CalTrain station near its present location; and reduced seismic hazard. Two alternative land use programs are also considered: a proposal submitted by a coalition of community groups at the public hearings on the Mission Bay EIR; and the development agreement application submitted by the project sponsor in May 1989.

Volume One - Chapter II. Highlights & Conclusions (Approval Process)

On p. II.24, the first paragraph under "Environmental Review, Master Plan Amend-

ments, & Rezoning," which starts at the bottom of the left-hand column and continues in the top of the right-hand column, is deleted and replaced with the following:

- Four public hearings on the Draft EIR were held before the City Planning Commission, giving citizens a chance to ask questions and voice their concerns about the EIR. An additional hearing was held to receive comments on a Supplement to the Draft EIR that analyzed additional cumulative impacts associated with a proposed ballpark and arena. The Summary of Comments and Responses (Volume Four) contains responses to all comments received and identifies text changes to the Draft and Supplemental EIR analyses as necessary. Together, the revised Draft EIR (Volumes One through Three) and Volume Four comprise the Final EIR for Mission Bay. The Final EIR requires certification by the City Planning Commission; no city approvals for the project may occur until certification takes place.

On p. II.25, the last sentence in the partial paragraph at the top of the right-hand column is revised to state:

- The Port of San Francisco would have demolition, site, building, and fire safety permit authority over land under its jurisdiction.

Volume Two - Chapter V. The EIR Alternatives and Approval Process

On p. V.5, the next-to-last sentence in the partial paragraph at the top of the page is revised to state:

- Some readily displaceable non-maritime activities are assumed to be allowed, while reserving the option for a marine container terminal at Piers 52 to 64.

On p. V.19, the last sentence of the second paragraph under "East of Third Street" is revised and three new sentences are added to the end of this paragraph, as follows:

- Over time, there would be some intensification of activity compared to current levels, but no new non-maritime development of the scale envisioned west of Third. For the time period analyzed in the EIR, future maritime development related to container cargo is expected to concentrate around the existing container-handling facilities to the south. See pp. VI.B.66-VI.B.67 and VI.B.76-

VLB.77 for descriptions of the market and development factors affecting future maritime activity in San Francisco. See pp. V.4-V.5 for description of the Port-Related/M-2 land use in Mission Bay and discussion of the assumption regarding future container terminal development adjacent to Mission Bay.

A new sentence is added before the final sentence in the second paragraph under "Environmental Review, Master Plan Amendments and Rezoning" on p. V.40 and the final sentence is revised, as follows:

- If a land exchange involving port properties is included in the development agreement, or review of program elements against port or maritime plans and policies is required, approval by the Port Commission also would be required. Those approvals can occur only after certification of the Final EIR.

On p. V.41, the first sentence of the first full paragraph is revised and a new sentence is added after it, as follows:

- The project could qualify as a Specific Plan under Government Code Section 65484. The Subdivision Map Act would require Tentative and Final Map Approval.

The last sentence in the paragraph under "Other City Permits and Approval Processes" on p. V.41 is revised to state:

- The Port of San Francisco would have site, demolition, building and fire safety permit authority over lands within the Project Area in its jurisdiction (see Table VI.A.3, p. VLA.68).

On p. V.44, note /7/ is revised to state:

- /7/ Elements of the San Francisco Master Plan would be reviewed for conformity; in light of the changes to the Central Waterfront Plan, the Department of City Planning would prepare any other necessary amendments to other Master Plan elements to maintain internal consistency.

Volume Three - Appendix A. The EIR Alternatives

At the bottom of p. XIV.A.13, a number shown in the "Age" column is revised and a note is added, as follows:

<u>Age</u>	<u>Percent of Total Population in Age Category That Would Be Employed</u>
15-64 years	82%
<u>65-74 years /a/</u>	50%

/a/ Assume 50% of the population 65 years and over (see preceding item for estimating population by age) is 65-74 years of age.



O. UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS

Comment

The DEIR's discussion of unavoidable significant effects should include a section on the impacts of the potential loss of a marine terminal in San Francisco in the context of the region as a whole. The designated two-berth container facility at Piers 52-64 would require only two acres of Bay fill. To meet the demand for marine terminals through the year 2010 and beyond, other sites will have to be developed for container cargoes. These sites will have potentially greater fill requirements. Therefore, if Alternatives A or B are selected, an unavoidable significant effect of the project would likely be more fill in San Francisco Bay. This comment applies equally well to Section IX (The Relationship Between Local Short-term Uses of Man's Environment and the Maintenance and Enhancement of Long-term Productivity) and Section X (Significant Irreversible Changes). Each of these sections should be revised to reflect this issue. (William Travis, San Francisco Bay Conservation and Development Commission)

Response

As discussed in Volume Two in the last paragraph on p. VIII.1 of Chapter VIII. Significant Environmental Effects Which Cannot Be Avoided If the Proposed Project Is Implemented, Alternatives A and B would preclude development of a container terminal on the piers adjacent to the Project Area. Alternatives A and B would result in insufficient backland area for new marine terminal facilities. That impact is identified as a potential unavoidable significant impact that would occur unless a land exchange or similar agreement is reached that would meet container handling capacity needs for the region.

In light of a recent amendment to the Seaport Plan, this last paragraph on p. VIII.1 is amended to delete the final two sentences (the last sentence continues on p. VIII.2) and the following two new paragraphs are added after it:

- In March 1989, the Bay Conservation and Development Commission (BCDC) approved an amendment to the Seaport Plan. Subject to certain conditions, the amendment allows Piers 52 to 64 to be deleted as a designated Near-Term marine terminal site, and newly

designates an area between Piers 70 and 80 as a Near-Term site. The conditions of this amendment require that 1) ownership of former Western Pacific property at Warm Water Cove (between Piers 70 and 80) is transferred from Santa Fe Pacific Realty Corporation to the Port of San Francisco; and 2) the Port and City develop a strategy, for approval by BCDC, that assures that port-priority areas in the Pier 70-80 area are reserved for Port purposes, and that non-port-owned land needed for marine terminal use in that area is available to the Port.

Until those conditions are satisfied, the Seaport Plan amendment retains the designation of Piers 52 to 64 as a Near-Term marine terminal site and the area east of Third Street as a port-priority area. Therefore, the possibility for Mission Bay development under Alternatives A and B to preclude container terminal opportunities in San Francisco, adjacent to the Project Area, is included as a potential unavoidable significant impact.

On p. II.114 of Volume One, the last sentence of the second listed item in the left-hand column is deleted and replaced with the following:

- Subject to certain conditions, a 1989 amendment to the Seaport Plan would allow a marine terminal site between Piers 70 and 80 to substitute for the designated site at Piers 52 to 64 at Mission Bay. However, until the conditions are fulfilled, the possibility that Mission Bay development under Alternatives A and B could reduce container terminal opportunities in San Francisco remains, and is included as a potential unavoidable significant impact.

Adoption of the 1989 Seaport Plan amendment followed an evaluation by Manalytics, Inc. for the Port of San Francisco of the comparative impacts of marine terminal configurations at the two waterfront locations.^{1/} The analysis, which examined backland acreage, number of berths (cargo capacity), amount of Bay fill required, and transportation access, concluded that the Warm Water Cove terminal location, when combined with other designated marine terminal sites in San Francisco, would provide for San Francisco's marine terminal facilities as envisioned in the 1982 Seaport Plan while requiring less dredging and Bay fill. BCDC staff concurred with this analysis and cited it in its January 13, 1989 staff report, which recommended the amendments that were adopted in March 1989.

XV. Summary of Comments and Responses
O. Unavoidable Significant Environmental Effects

For more information on the Seaport Plan amendment, see XV.A. Public Plans, Policies and Permits, pp. XV.A.1-XV.A.5

The change in land use associated with the project and the possible preclusion of future uses is discussed in Volume Two, Chapter IX. The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity. However, the possible preclusion of a container terminal is not specifically addressed. The following is added at the end of the first paragraph on p. IX.1 of Volume Two:

- In particular, housing and other non-maritime uses east of Third Street under Alternatives A and B would preclude development of a container terminal on the piers adjacent to the Project Area and could interfere with long-term productive use of the Bay unless the exchange of a Near-Term site designation between Piers 52-64 and the area between Piers 70 and 80, as described in the March 1989 Seaport Plan amendment, were approved by BCDC. Such approval, provided a land exchange also took place and other required conditions were met, would provide a suitable substitute to meet regional container-handling needs. (For more detail on the Seaport Plan amendment, see the discussion in VI.A. Public Plans, Policies and Permits beginning on p. VI.A.19 [in this document, see pp. XV.A.1-XV.A.2].)

The impacts of Alternatives A and B on the future development of a container terminal in the Project Area are addressed in Volume Two, Chapter X. Significant Irreversible Environmental Changes Which Would Be Involved in the Proposed Action Should It Be Implemented (see the second paragraph on p. X.1). In light of the recent Seaport Plan amendment, however, that discussion is revised and three sentences are added. The second paragraph on p. X.1 of Volume Two is revised to state in its entirety:

- Alternatives A and B would preclude long-term development of container terminal uses east of Third Street and on piers adjacent to the Project Area. Alternatives A and B would not provide sufficient backland area for new terminal facilities. While capital improvements to improve existing container-handling facilities at Piers 80 to 96 are planned, those improvements would not replace entirely container-handling capacity adjacent to the Project Area that would be lost. However, if the exchange of a

Near-Term designation between Piers 52 and 64 (adjacent to the Project Area) and an area between Piers 70 and 80, as described in the March 1989 Seaport Plan amendment, were approved by BCDC, container-handling facilities could be located near Piers 70 and 80. In that case, Mission Bay development would not reduce container cargo capacity in San Francisco (or the Bay Area region). (For more information regarding the 1989 Seaport Plan amendment, see the discussion in VI.A. Public Plans, Policies and Permits, beginning on p. VI.A.19 [in this document, see pp. XV.A.1-XV.A.2].)

NOTES - Unavoidable Significant Environmental Effects

/1/ Port of San Francisco, Marine Terminal Site Analysis, prepared by Manalytics, Inc., August 1988.

STAFF-INITIATED TEXT CHANGES FOR UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS

The following staff-initiated revisions are made to the Unavoidable Significant Environmental Effects discussions in Volume One of the Mission Bay Draft EIR.

Volume One - Chapter I. Executive Summary

On p. I.5, right-hand column, the second sentence in the paragraph under "Unavoidable Significant Environmental Effects" is revised to state:

- Potential unavoidable significant effects are identified in the areas of: change in land use; foreclosing the option of marine container facilities in the Project Area; cumulative transportation congestion; cumulative air quality effects; exposure of more people to seismic hazards; and water quality impacts from dredging.

Volume One - Chapter II. Highlights & Conclusions (Unavoidable Significant Environmental Effects)

On p. II.114, right-hand column, the last sentence of the second listed item is changed to replace "the Alternatives" with "Mission Bay." As revised, this sentence states:

- If more-stringent building standards were adopted for new construction, Mission Bay would be as safe as or safer than other areas in San Francisco, thereby reducing risk.

In the next listed item in this column, the first sentence is revised to state:

- Dredging in China Basin Channel under Alternative A and disposal of the material at either an ocean or Bay (likely to be Alcatraz) disposal site could cause unavoidable potentially significant impacts in the channel and at the disposal site by releasing contaminants into the water column.



P. ALTERNATIVES AND VARIANTS

NO PROJECT ALTERNATIVE

Comment

In most environmental documents, a "No Build" alternative is provided to show conditions, if the proposed project is not constructed. In this document the "No Build" alternative (Alternative N) appears to assume that a substantial amount of construction will still take place in the project area, with even more traffic growth than Alternative B. This needs clarification, since it does not seem to meet the usual rationale for providing a "No Build" alternative. (Gary Adams, Caltrans, District 4)

Response

The California Environmental Quality Act requires EIRs to consider a "No Project" Alternative. In the Mission Bay EIR, that is Alternative N. The Mission Bay project would involve, among other things, Master Plan revisions, rezoning and approval of a development agreement - all public actions. If such public actions were not undertaken (i.e., no project), it is certainly reasonable to assume that some kind of development would occur during the next 30 years under existing zoning and Master Plan policies for the Project Area. Alternative N represents one likely scenario that could be expected to occur in the future under the M-2 (Heavy Industrial) zoning and Central Waterfront Plan policies for the Project Area. In addition, a variation on Alternative N that includes housing is analyzed as Variant 1 (Housing Development), pp. VII.1-VII.9 of Volume Two, Chapter VII. Variations on Alternatives.

The "No Build" or "No Change" scenario interprets a No Project Alternative in its most literal sense. As noted on p. V.16, in Volume Two, Chapter V. The EIR Alternatives and Approval Process, by definition "No Build" is analyzed fully in the Setting discussions in Chapter VI. Environmental Setting, Impact and Mitigation, which outline existing conditions in the Project Area.

PORt PRIORITY VARIANT

Comment

It [the EIR] does not present a realistic study of a Mission Bay Development planned so as to encourage Port preservation and expansion.

Beginning at page VII.10 the EIR presents a variant of Alternative B, a variant termed Port-Priority Retention that would reserve the land east of Third Street for maritime and maritime-related uses. But the treatment of this variant is superficial and rather slapdash. It is regrettable that the EIR framers did not use this opportunity for a thoroughgoing study of the effects of Port expansion at China Basin. Such a study should test the impact of a three-berth container terminal there, as well as that of the five berths called for in the Port's master plan. Also, a realistic Port preservation and expansion element should be presented as a variant of Alternative A rather than Alternative B. The loss of about 1600 housing units east of Third in Alternative A should be made up by additional housing construction west of Third, made feasible by a drastic cutback in office construction. The main point to be made here is that it is perfectly feasible to build Mission Bay and at the same time protect the Port. The spokesmen for Santa Fe Pacific have acknowledged from the very beginning that if put to the task they would build their project entirely on lands west of Third.

The Waterfront Committee of San Francisco Tomorrow finds the EIR to be unacceptable in its present form. (Jack Morrison, San Francisco Tomorrow)

Response

The EIR evaluates reservation of lands east of Third Street for port uses in Alternative N and Variant 2 (Port-Priority Retention). Alternative N analyzes future maritime and other uses that are assumed to occur if the Mission Bay project is not built. Variant 2 considers port-related uses across Third Street from a development that is predominantly housing. (Variant 2 is described in Volume Two, Chapter VII. Variations on Alternatives, pp. VII.10-VII.19.) In addition, analysis of a new variant has been added (see Variant 11 [EIR Hearing Proposal], pp. XV.P.6-XV.P.26). Variant 11 would potentially reserve land east of Third Street for port-related uses.

Were a variant based on Alternative A to have been considered, as suggested in the Comment, it too would have residential uses west of Third Street, as would be the case in Variants 2 and 11. There are many development programs possible on a site the size of Mission Bay. The EIR is not required to include all conceivable variations as long as the potential impacts of reasonable alternatives are considered. The EIR does consider both the continuation of existing types of uses and a marked change in use (housing) adjacent to port-priority uses.

This report is intended to cover impacts of a Mission Bay plan, one of which would be that a container terminal at Mission Bay may be precluded (see Volume Two, VI.B. Land Use, Business Activity, and Employment, pp. VI.B.101-VI.B.104 and VI.B.115-VI.B.117). Preparation of this EIR is not for the purposes of presenting a detailed analysis of future container terminal options on port land adjacent to the Project Area, although the possibility of such terminal development has been evaluated in the context of the Mission Bay planning process; the "Container Terminal Options" Special Study for Mission Bay, published in September 1986, evaluated a range of two-to-five berth container terminal options for Piers 48 to 64.

In reserving all, or large portions of, the area east of Third Street for port-related use in Alternative N and Variants 2 and 11, the option for approving a plan based on this EIR that includes the potential for developing a marine terminal facility in Mission Bay is retained. Detailed impacts of alternative marine terminal plans and designs, however, would be subject to a separate environmental analysis if the Port of San Francisco were to pursue such development sometime in the future.

It would be noted that, since publication of the Draft EIR, the San Francisco Bay Conservation and Development Commission (BCDC) and the Metropolitan Transportation Commission (MTC) approved amendments to the BCDC/MTC Seaport Plan that would enable a land exchange involving Piers 52-64, under certain conditions, to develop marine terminal facilities between Piers 70 and 80 instead of adjacent to the Mission Bay Project Area. (See XV.A. Public Plans, Policies and Permits, pp. XV.A.1-XV.A.5.) It is not necessary for decision-makers to have a thorough-going assessment of various container terminal options in order to make an informed decision regarding Mission Bay.

For further information, see the Responses on "Implications for Long-Range Port Planning and Development," in XV.B. Land Use, Business Activity, and Employment, beginning on p. XV.B.22.

COMMUNITY PLANS

Comments

What rationale is used to explain how, when citizens' alternatives for development at Mission Bay existed at the time, did the Draft EIR's authors in the Planning Department choose to ignore these plans, choose to reinvent the wheel, in the creation of several development

scenario alternatives? Surely the taxpaying and voting citizens have equal standing with the project sponsor in the realm of imagining design possibilities, especially in the context of a Draft Environmental Impact Report prepared by the City agency?

. . . Either the authors were ignorant of these proposals, and thus were too poorly informed of the project given the responsibility for generating such a report, or a conscious decision was made to exclude the input of the public special interests of informed citizens to make way for the private special interests of the developer. . . . (Leigh Kienker)

The two alternatives presented are not valid ranges of alternatives. Therefore, there is no real way to judge whether these alternatives are reasonable or whether there are enough alternatives. The Community plans offered real possible alternatives.

First there was the Rockefeller plan. No one liked it. It disappeared.

The next plan we got was the I.M. Pei plan. A world-renowned architect came in, brought us 42-story high-rises, 11 million square feet of offices, 58,000 new jobs. I got that out of the press release of Mayor Feinstein's MOU [the Mayor's Letter]. I hadn't recalled there were 58,000 jobs then.

In April of '83, the Clearinghouse organizations kind of got together and testified as a community, as the first public hearing where the developer was presenting that plan, and I overheard one of the developers' attorneys talking on the phone to Chicago and saying: Our plan has been blown out of the water.

That is sort of what happened.

The San Francisco Examiner headline quotes "Jeers greet SP's plan for China Basin." That about summed it up.

So, where do we go next? In August of '84, a memorandum of understanding was signed between Mayor Feinstein and the developer, and this was negotiated without Clearinghouse members' input. The project was scaled down considerably from the original I.M. Pei scheme. It had only four million in office space and created only 21,000 jobs, and building heights were limited to eight stories.

As a response to this, three members of the Clearinghouse developed community plans. I have furnished a copy to each Planning

Commissioner, a packet. It's a 19-page packet, and it shows a community plan called Mission Bay Gardens that San Francisco Tomorrow did. There is one from Potrero Hill League of Active Neighbors, and another one from Mission Creek Conservancy. These were the plans, for new Planning Commissioners, that the community developed over a lot of discussions and over some objections to the MOU plan.

Despite the existence of these three worthy community plans, the Feinstein MOU has remained the driving force in the planning process over the last four years, and that MOU is one of the kind of preferred alternatives that we are still dealing with and addressing in the current Draft EIR.

During the past four years, we have had a lot of different things. We have had a proposal for citizens' review, had workshop charettes with the consultants. We had over 20 special studies to address some of the deficiencies in the citizens' review proposal. But none of these proposals examined the three community or citizen alternatives that had been presented. So we spent four years kind of evaluating the MOU-based plan, which really doesn't seem to be that valid to me any more.

The current Draft Environmental Impact document still doesn't really give us the plan. We think there is a plan out there somewhere because there are some development agreement negotiations going on during this process. But we don't think this particular EIR shows us the project description that is the thing that we really would like to measure impacts against and mitigations against.

As we started this review in 1988, we are really in a different arena now. We have a new mayor, a new Planning Commission, a new Master Plan as a result of Prop M that has been compiled together and now readily available to the public in one volume. I really appreciate that. We have continuing evidence of transportation problems which have been shown in the newspaper that it's affecting planning in the region. It's the No. 1 planning issue according to the League of Women Voters and ABAG that is affecting our broader community and the Bay Area. We have had new policies with respect to demolitions, affordable housing opportunities, job needs in the city. We have a new awareness of the toxics problems in several parts of the City, including Mission Bay and other places like Hunters Point that have come to the forefront in the last couple of years.

We have a 'mayor who talks about regional solutions to problems in the State of the City

address, and we have a mayor who will not give up on his stadium proposal, which the voters have repeatedly rejected and which I think all the members of the Clearinghouse would like to see disposed of so we could get on with developing this project without worrying what is going to happen with the stadium or the arena proposal.

Since the MOU alternative four years ago -- it's really not that valid -- and the second alternative presented in the plan [EIR] isn't really a representative housing, open space, neighborhood plan like our citizens' ones, where does this leave us? How do we continue with the planning process?

We'd like to propose that we go back and look at those three community plans again. I think when I get down to reading the nitty-gritty in this document, I will take out the three community plans and see how they stack up against the two plans in the book and see what might be missing in the analysis from that perspective. That might be a useful thing to do. (Regina Sneed, Mission Bay Clearinghouse and San Francisco Tomorrow)

Response

In or before 1985, when the current phase of Mission Bay planning involving Santa Fe Realty Corporation was getting under way, several community groups prepared conceptual plans for the Project Area. The Department of City Planning's consultant design team considered those plans, as well as the Mayor's Letter (MOU) in drafting The Mission Bay Plan, Proposal for Citizen Review (see Volume Two, Chapter III. Background and Area Description, pp. III.4-III.5). They were also used to develop the Alternatives reviewed in the EIR.

Alternative A is similar to the Mayor's Letter, but is based on the project sponsor's proposal as identified in their application for environmental evaluation. Alternative B is conceptual and is not identical to any of the community groups' plans, but key elements of the community groups' plans were incorporated into it. Those elements are more housing and open space and the inclusion of wetlands. Therefore, the impacts of key elements of the community plans are reviewed in the EIR.

In addition to the three main Alternatives evaluated, the EIR scope was expanded to include ten variants. Analysis of variants enables the EIR to provide additional impact information associated with, for example, retention of port-related land uses east of Third Street (see Variant 2 [Port-Priority Retention], pp. VII.10-VII.19 of Volume Two, Chapter VII. Variations on Alternatives), and varying the amount and size

of affordable housing units (see Variant 8 [Variations in the Percentage of Affordable Housing and the Size of Affordable Units], pp. VII.47-VII.51 of Volume Two). The EIR Alternatives, and most of the variants, were the subject of public discussion in meetings with community groups interested in Mission Bay; many of the variant analyses were included as a response to issues raised in those discussions.

As part of public comments submitted during the Draft EIR comment period, the Final EIR will be expanded to include an analysis of a new proposal for Mission Bay, submitted by a coalition of three citizen groups. The proposal, presented later in this section on pp. XV.P.6-XV.P.26, is included in the EIR as Variant 11 (EIR Hearing Proposal), and is understood by the Department to represent the current consensus of several citizen organizations, many of which were involved in earlier community proposals for Mission Bay.

In response to Comments regarding the absence of a Mission Bay "plan" evaluated in the EIR, see pp. XV.P.27-XV.P.46, which presents an impact analysis of Variant 12 (Development Agreement Application). That land use program reflects the current Mission Bay "plan," as of May 1989.

The scope and organization of the EIR has been structured to accommodate changes and refinements in a fluid planning process, in order to provide the relevant impact analysis information.

EIR HEARING PROPOSAL

Comments

. . . [T]he EIR ignores at least one reasonable alternative,¹ in favor of alternative B, which appears to be infeasible, based on what is publicly known of Santa Fe's objectives, as well as even the EIR's ethereal description of the project ("mixed-use").² The EIR also omits an alternative which is consistent with the requirement of the Recreation and Open Space Element of the Master Plan that the City increase its open space acreage above the existing 5.5 acres per thousand residents. Assuming the minimum increase, to 6 acres per thousand residents, alternative A contains only about 57% of the required open space.³ Alternative B contains 10,000 housing units and 94.1 acres of open space. Using the same ratios, this population would require 126 acres of open space. Alternative B supplies only 75% of this amount.⁴ The only alternative that is not (apparently) open space deficient is N, which

essentially calls for no new housing. However no new housing is not an acceptable alternative.

Thus, a balanced, mixed-use alternative which is both generally within the project objectives, reasonable, and feasible, and not substantially open space deficient, is absent from the EIR. As a result the EIR does not fully inform the public as to the outer parameters of the possible development programs, and does not describe the impacts of all reasonable development programs. (Zach Cowan, Mission Creek Conservancy, Sierra Club, San Francisco Tomorrow)

¹I refer to the "citizens' alternative" (hereafter alternative "C") [variant], submitted by a consortium of housing, open space, environmental, neighborhood and other groups.

²This is not to say that alternative B is not a marked improvement in some respects over alternatives A and N, although it remains deficient in terms of open space.

³Alternative A contains 7700 units of housing and 55.3 acres of open space. Assuming 2.1 residents per unit, this population would require 97.02 acres of open space.

⁴Alternative B also shows three rather small wetlands. This raises the question of whether such minute wetlands are biologically feasible. The background study prepared for the department of City Planning which addressed this issue, indicated that such small wetlands would not be feasible. This issue needs to be clarified.

Most significantly, the Waterfront Committee noted in its various presentations that the EIR review is being conducted in a vacuum. Neither the public or neighborhood principals know the actual shape of the project. Negotiations between the City, the Planning Commission and Santa Fe Realty Company have been closed to outside view for far too many months.

At its November 8 meeting the Waterfront Committee of the Boosters had an informal visit from Santa Fe Project Manager James Augustino. Mr. Augustino participated in a question and answer session with the Committee. While Augustino could not reveal details of the closed door project negotiations, he did express concern over the possibility of including the so-called Citizens Initiative C as part of the EIR process.

Citizens Initiative C is the result of work by a coalition of neighborhood groups, including the Boosters. This new initiative will be present in the near future and could become yet another alternative that would have to go through the full

review process. There is general agreement among Waterfront Committee members that while initiative C, or modifications thereof might well be included in the planning process, it ('Alternative C') does not belong in the EIR process. Another year of EIR review and hearings - especially if no project has been disclosed to bring structure to the discussions - would be counterproductive. (Arden Smith, Potrero Boosters and Merchants Association)

We ask that the illustrative plan [variant] receive sufficient analysis in this environmental review process to allow it to be approved as the preferred project if the City decision makers deem it to be. . . .

. . . We want to urge you to ask that this wetland alternative [in this variant] be looked at in terms of its feasibility by the wetlands expert and hydrologist who reviewed the previous proposals. (Ruth Gravanis, Mission Bay Clearinghouse)

There is a solution to this problem that should be studied, not the unrealistically dense Alternative B that manages to damage the Port in providing housing, but one that Mission Bay Clearinghouse has been urging for years -- reduce office space north of the channel, replace it with housing, remove housing from east of Third Street where it will choke off the Port and industrial use, lower housing density throughout the project to improve affordability and livability -- and density in itself is a topic that should be discussed. (Ira Kurlander, San Francisco Tomorrow)

The opportunities (demand) for employment will be determined by what zoning is allowed in Mission Bay. None of the Alternatives are acceptable without significant combination and/or variation. The type(s) of employment that will be of greater benefit to San Francisco residents and a diversity of jobs must be the result of what you approve. Until you have a plan which outlines and identifies those exact figures, it is impossible to make any recommendation. (Jim Firth, Mission Bay Clearinghouse)

The difference between B and A, I mean, it's so great that you don't take B seriously. I think an in-between alternative that the citizens are more likely to support would show the difference in environmental impacts and economic and housing impacts. So I hope you will come up with that kind of an alternative.

I think it is not certifiable without it. . . . (President Bierman)

I would agree . . . that I am not totally happy with the alternative section, and that I think it was very creative to come up with two alternatives and ten variants. Unfortunately, with a project of this size, there may be 30 or 40 other variants or maybe four or five other alternatives and 15 other variants you want to do. I mean, you can do it endlessly.

But I think valid community-based proposals that have widespread support deserve to be analyzed as an alternative on their own because I think it's going to be important in the final decision-making process. (Commissioner Engmann)

I understand that there are some groups that have proposed plans for Mission Bay that are different than Alternative A, B, or N in the Draft Environmental Impact Report, and it may be appropriate for us to evaluate those as to determine the environmental impact of these other plans that have been proposed by community groups. (Commissioner Morales)

The Draft EIR has examined in detail current uses west of Third St. and provided excellent descriptions of business activities that they surveyed in nearby areas. The data on earnings and the relationship to available jobs offers a benchmark on which to consider future employment opportunities. . . .

[On] p. [VI.]JB.23 [the EIR states:] "A strong retail sector as well as convention and tourism activity also supported growth in the Downtown & Vicinity; cultural and performing arts activity shared in the expansion of the 1970's. Employment growth in all of those sectors was offset [somewhat] by employment decline in older industrial, distribution and service establishments remaining in the Downtown & Vicinity."

Retail and performing arts continue to provide employment opportunities and offer vitality to the neighborhoods they occupy. . . .

[On] p. [VI.]JB.34/35 [the EIR states:] "Employment in manufacturing and maritime sectors has declined as large facilities have closed or cut back on work. The continued presence of transportation and distribution establishments and some maritime sales and service operations, in addition to growing activity of small manufacturers and artisans, has offset some of this decline."

There is a market for employment other than office now in the Mission Bay area which should be encouraged to stay not move. (Jim Firth, Mission Bay Clearinghouse)

[On] p. [VI.]B.42 [the EIR states:] "Both retail trade and hotel have the highest percentages in the lowest wage categories, . . ."

Providing space for a hotel in Mission Bay is encouraging the continuation of low paying jobs in an area where the potential for greater average earning power exists. . . .

[On] p. [VI.]B.85 [the EIR states:] "Alternative A. The higher-wage categories show the greatest percentage increase in employment while the middle and lower wage categories show the largest numerical increase."

[On] p. [VI.]B.87 [the EIR states:] "The pattern for wages and salaries and commensurate skill, education and experience requirements for jobs in the Project Area [under Alternative B] would be similar to that for Alternative A."

"Alternative N. A relatively large number of jobs in businesses similar to those now operating in the Project Area (Port-Related/M-2) plus an increase due to new businesses results in the relatively large number of crafts, operatives and other jobs. There would be more jobs in those occupations under Alternative N than under Alternative A, even though there would be more total jobs under Alternative A."

Another policy question presents itself with no plan to judge its effects against. Do we want a lot of low paid workers in Mission Bay or not so many better paid? (Jim Firth, Mission Bay Clearinghouse)

[On] p. [VI.]B.57 [the EIR states:] "The ongoing pattern of decline in those activities (Distribution) in the area (South of Market) is expected to continue."

The South of Market Plan being considered by the SF Planning Commission attempts to curtail the exodus of support services from the South of Market. San Francisco can support the service and distribution industries by encouraging their presence in a significant way in Mission Bay. (Jim Firth, Mission Bay Clearinghouse)

[On] p. [VI.]B.65 [the EIR states:] "Nearby Industrial Areas. There is some potential for strengthening the City's industrial/manufacturing base . . . those activities include: printing, photography and related activities, creative arts workshops, film and video production, apparel design and manufacturing, custom furnishings manufacturing, and food production."

[On] p. [VI.]B.66 [the EIR states:] "Wholesale and distribution activities that are expected to

grow include those related to interior decorating and furnishings, those serving the downtown market (office machines, paper products, etc.), and those serving the retail and food service industries throughout the City."

There is no reason given the amount of expected growth in the above mentioned activities that Mission Bay not be considered as a land resource for all of the activities mentioned above and more. There is a better chance of it happening there than in the South of Market. (Jim Firth, Mission Bay Clearinghouse)

Response

In light of the level of public interest and Comments received, this Response consists of additional environmental impact analysis of a land use program submitted by a coalition of citizens groups. Because the land use program falls within the range established in Alternatives A, B and N as evaluated in the Draft EIR, this new proposal is analyzed as a variant, drawing from the detailed and comprehensive information already generated for the Alternatives. (It should be noted that the Alternatives themselves were subject to citizen review, comment and revisions as part of public scoping meetings held before preparation of the Draft EIR.) The emphasis of the analyses is to highlight where potential impacts of the variant differ from those addressed for the Alternatives. Table XV.P.1 compares the major attributes (i.e., housing, residents, employment, and open space) of the variant with the three EIR Alternatives. Table XV.P.2, on p. XV.P.8, shows land area and building space under the variant by land use. Table XV.P.3, on p. XV.P.9, compares the types and amount of employment projected for the variant with that projected for the Alternatives.

This new variant, Variant 11 (EIR Hearing Proposal), is added to Chapter VII. Variations on Alternatives, after the second full paragraph on p. VIII.56 of Volume Two, to precede the notes. In keeping with the format of this Summary of Comments and Responses for additions to and changes in the EIR, Variant 11 appears on the following pages in boldface type; because of its length, however, it is not indented as are other EIR additions and changes throughout Volume Four. (Tables XV.P.1-XV.P.3 are presented for information and comparison, and are not added to Chapter VII.)

(The rejection of an alternative that provides more open space per resident than Alternative A or B is discussed in XV.D. Community Services and Infrastructure, pp. XV.D.5-XV.D.6.)

TABLE XV.P.1: MAJOR ATTRIBUTES OF VARIANT 11 COMPARED TO THOSE OF ALTERNATIVES A, B, AND N, BUILD-OUT/2020

	<u>Alt. A</u>	<u>Alt. B</u>	<u>Alt. N</u>	<u>Variant 11</u>
Housing (Units)/a/	7,720	10,020	20	8,520
Residents (Persons)	14,400	18,670	36	16,730
Employment (Jobs)	24,980	6,230	17,250	6,720
Open Space (Acres)				
Active	13.0	22.1	0	31.1
Passive	30.3	26.2	5.2	29.6
Wetlands	0	33.8	0	19.7
China Basin Channel	<u>12.0</u>	<u>12.0</u>	<u>12.0</u>	<u>12.0</u>
TOTAL ACRES	55.3	94.1	17.2	92.4

/a/ Includes 20 existing houseboats that would be retained in all cases.

SOURCE: Environmental Science Associates, Inc. and Recht Hausrath & Associates.

11. EIR HEARING PROPOSAL (ALTERNATIVE B)

DESCRIPTION

The distribution of land uses in this variant is most closely related to Alternative B's land use distribution west of Third Street. It has about 10% more jobs than Alternative B, and the amount of housing provided would fall between the amounts in Alternatives A and B. Port uses and open space are included east of Third Street in place of housing with the intention of preserving the option of port development at Mission Bay. (Impacts of locating port-related uses east of Third Street also are evaluated in Variant 2, Port-Priority Retention, p. VII.10.) The land use plan and program for the variant are shown in Figure VII.8 (shown in this volume on p. XV.P.10).

The variant places more emphasis on "affordable" housing than do EIR Alternatives A and B; 50% of the housing units would be "affordable" under the variant, rather than 30% under Alternatives A and B. At least one-half of the units would be "family-sized" units (two bedrooms or more). While not precluded under Alternatives A or B, this variant specifically includes 200 live/work units which would provide combined living and working space for artists or crafts workers.

The variant provides about the same amount of open space as does Alternative B, and includes one 20-acre wetland along the Bay shore. Open space would provide a variety of active as well as passive recreation areas, and features such as community gardens and recreation centers. An indoor, olympic-sized swimming pool and gymnasium could be included near the Sixth Street interchange.

Space for a wider variety of community and cultural facilities would be provided by the variant than by Alternatives A and B. Community and cultural facilities in the variant would include publicly owned uses similar to those defined as community facilities in Alternatives A and B, as well as privately owned facilities such as theaters, child care centers, and art galleries. Such use would not be precluded in Alternatives A and B. Community facilities in the variant could include a library, senior center, health center, recycling center, school, fire and police facilities, MUNI yard, and the existing pump station. The rehabilitated fire station at the intersection of Third, Fourth and Mission Rock Streets and at the northeast corner of Third and 16th Streets would be used for community facilities.

No office buildings are proposed in the variant. A 400-room hotel would be located in the

TABLE XV.P.2: VARIANT 11 LAND AREA AND BUILDING SPACE BY USE, BUILD-OUT/2020

<u>Land Use</u>	<u>Land Area (acres, unless <u>otherwise noted</u>)</u>	<u>Building Space (sq. ft. unless <u>otherwise noted</u>)</u>
Light Industrial / Research & Development	7.0	550,000
Service/Commercial (below residential)	0 /a/	680,000
Retail (below residential)	0 /a/	500,000
Hotel	1.0	400 (rooms)
Port-Related/M-2	34.9	434,700 /b/
Housing		
Low Density (LDR)	49.2	2,460 (units)
Medium Density (MDR)	7.8	1,040 (units)
Medium-High Density (MHDR)	21.0	2,220 (units)
High Density (HDR)	17.7	2,580 (units)
Live/Work	2.7	200 (units)
TOTAL HOUSING	98.4	8,500 (units)
Community and Cultural Facilities	4.0 /c/	426,000
Open Space		
Active	31.1	NA
Passive	29.6	NA
Wetlands	19.7	NA
China Basin Channel	12.0	NA
TOTAL OPEN SPACE	92.4	NA
CalTrain Right-of-Way	11.5	NA
Pump Station	1.5	12,000
Streets and Infrastructure	74.3	NA
Houseboats	20 (berths)	20 (units)
Pleasure Craft	35 (berths)	NA

NA - Not applicable.

- /a/ These would be ground-floor uses in residential buildings; land area is included in housing totals.
- /b/ Building space includes Esprit and other existing buildings in the Port/M-2 area in the southeastern portion of the Project Area (93,400 sq. ft.). The same or similar uses are assumed to remain in that area under the variant.
- /c/ Free-standing community and cultural facilities only; community and cultural facilities would also be located on the ground floor of some residential buildings.

SOURCE: Environmental Science Associates, Inc.

TABLE XV.P.3: MISSION BAY EMPLOYMENT BY USE, VARIANT 11 AND ALTERNATIVES, BUILD-OUT/2020

<u>Land Use</u>	<u>Alt. A</u>	<u>Alt. B</u>	<u>Alt. N</u>	<u>Variant 11</u>
Office/a/ S/LI/RD/a/ or LI/RD	14,200 8,400	3,500 900	3,500 NA	NA 1,120
Service/Commercial/b/	NA	NA	NA	1,960
Retail	700	800	300	1,430
Hotel	370	NA	NA	295
M-2 Industrial	NA	NA	11,600	NA
Port-Related/M-2	0	NA	1,150	650
Housing-Related	310	400	NA	340
Community Facilities/c/ and Open Space	160	380	50	330
Pump Station and CalTrain Station	90	90	160	90
Building Maintenance / Security / Parking	750	160	490	155
Live/Work/b/	NA	NA	NA	350
TOTAL	24,980	6,230	17,250	6,720

NA - Not applicable.

- /a/ No office development is proposed under Variant 11. The variant provides for Light Industrial / Research and Development (LI/RD) uses, similar to the Service / Light Industrial / Research and Development (S/LI/RD) uses in Alternatives A and B.
- /b/ The variant proposes a Service/Commercial use that would provide space for a mix of services (e.g., financial, personal, and small-scale professional, medical, commercial, and business) and neighborhood retail. The variant also includes a live/work use that would provide space for artists or crafts workers.
- /c/ In Variant 11, this category is expanded to include cultural facilities.

SOURCE: Environmental Science Associates, Inc. and Recht Haustrath & Associates, Inc.

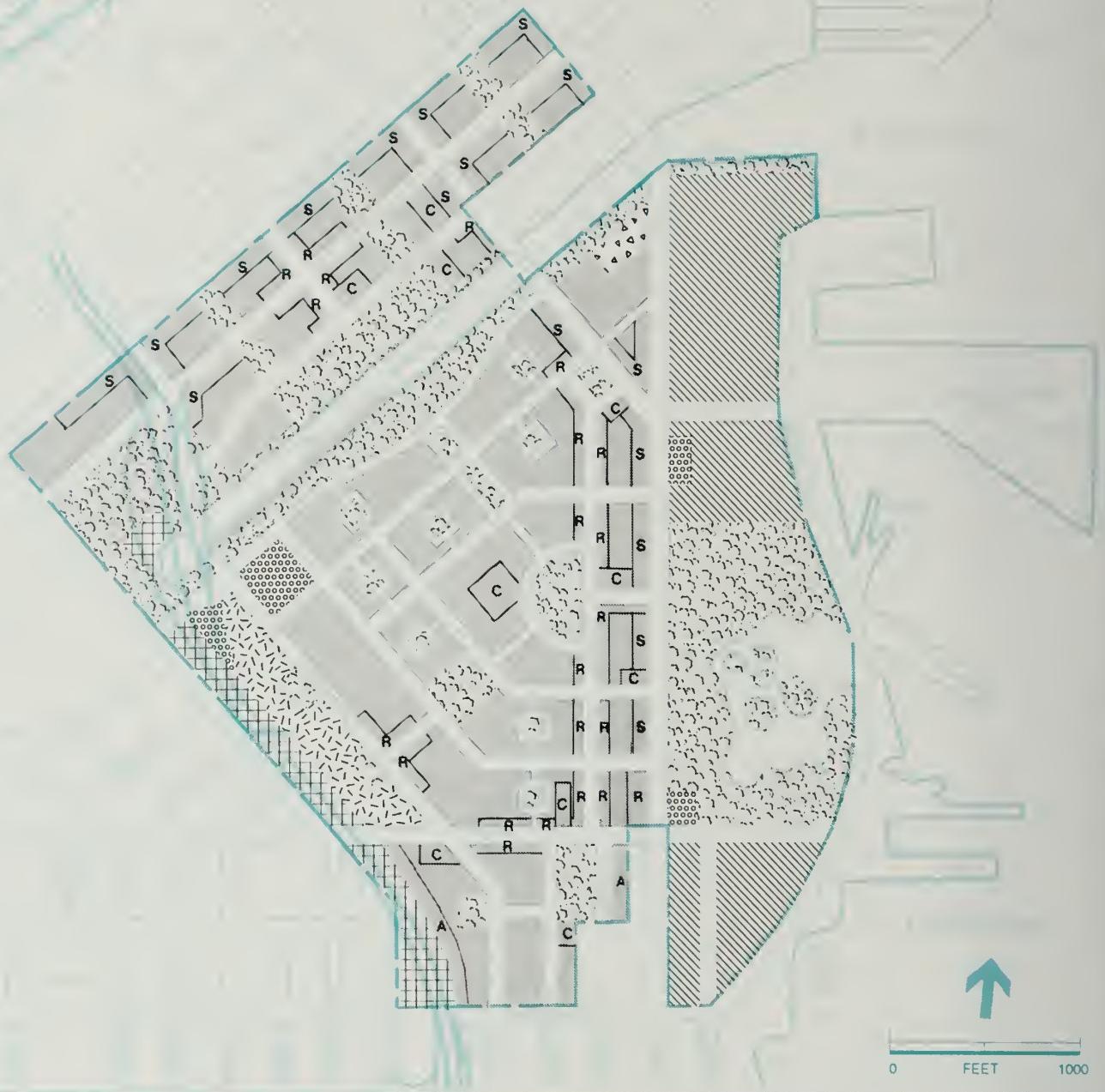
northern portion of the "banana triangle" adjacent to HDR. The variant would provide more retail space than Alternatives A or B would (about twice as much retail space as that in Alternative A and about two-thirds more retail space than that in Alternative B). Most of the retail space would be located on the ground floor of residential buildings. There would be a corridor of retail uses along Long Bridge Street, parallel to and west of Third Street. The retail space would consist primarily of shops, stores, and eating and drinking places as found along a typical neighborhood commercial street. A supermarket could be developed at the intersection of 16th and Third Streets.

The variant provides space for Light Industrial / Research and Development (LI/RD) uses, similar to the S/LI/RD uses in Alternatives A and B, and

introduces a new specific use category, Service/Commercial.

Service/Commercial space would be located on the ground floor of residential structures, primarily along major streets (e.g., Townsend and Third Streets). The mixed-use buildings providing Service/Commercial space would be of relatively high-quality construction with attention to design and amenities. Parking generally would be incorporated in the structure.

Service/Commercial would be flexible space, able to accommodate a variety of types of businesses. The space generally would be designed to accommodate smaller users. The types of businesses likely to locate in Service/Commercial space are as follows:



MISSION BAY BOUNDARY

	LIGHT INDUSTRIAL / RESEARCH AND DEVELOPMENT (LI/RD)		PORT-RELATED / M-2		COMMUNITY AND CULTURAL FACILITIES
	SERVICE AND COMMERCIAL (Ground Floor)		HOUSING		COMMUNITY AND CULTURAL FACILITIES (Ground Floor)
	RETAIL (Ground Floor)		LIVE / WORK		OPEN SPACE (Parkland, Wetlands)
	HOTEL				RAIL AND EXISTING PUMP STATION

Mission Bay

SOURCE: Environmental Science Associates, Inc.

FIGURE VII.8
EIR HEARING PROPOSAL
(ALTERNATIVE B)

- Small professional service firms such as architectural, engineering, and other consultant service firms, design firms, advertising agencies, and public relations companies;
- Business services firms such as data-processing, record-keeping and personnel agencies, branch banks, travel agencies, real estate agencies, and insurance agencies;
- Administrative support offices for small manufacturing, publishing, and distribution companies, and trade associations;
- Reproduction and printing shops;
- Office supply and equipment sales and repair shops;
- Communications and delivery businesses;
- Home improvement, hardware, and building materials suppliers; and
- Retail, entertainment, and eating and drinking establishments oriented to a broad market area.

There would be some differences between the types of Service/Commercial activities north and south of the channel. Most Service/Commercial space north of the channel is likely to be occupied by office-type activities. South of the channel, there would be a greater mix of small office uses, commercial services and retail activities.

The 20 houseboat berths and 35 pleasure-craft berths in China Basin Channel would remain. As in the EIR Alternatives, the I-280 stub and Fourth Street off-ramp would be removed and the interchange reconfigured to provide on- and off-ramps at King Street near Sixth Street.

CalTrain would follow its present route, but would gradually descend below grade, from north of 16th Street to about Seventh and Hooper Streets; from there it would continue underground. The route would lie beneath King Street. The existing CalTrain station would be replaced by an underground station between Third and Fourth Streets. MUNI Metro would follow the same corridor above ground along King Street west to the MUNI yard near Seventh and Channel Streets.

Outside the Project Area, the wetland park would require construction of a bridge carrying China Basin Street over the connection between the Bay and the proposed wetland.

The variant is most similar to Alternative B in terms of total employment. Total employment would be about 6,700 jobs, 8% more than that in Alternative B and 73% less than that in Alternative A. The most employment in the variant would be associated with the Service/Commercial land use category. This space is

estimated to accommodate about 1,960 jobs in a mix of small office, retail, and commercial businesses. Retail and LI/RD are the other major employment categories.

The variant would preserve some port-related jobs that would be eliminated by Alternatives A and B. It would also provide hotel employment similar to Alternative A, employment that would not be provided in Alternatives B or N. The amount of employment associated with community facilities, open space, and building maintenance/security/parking would be similar to the amount in Alternative B. In addition, the variant would provide an estimated 350 jobs in a new live/work land use category.

The number of housing units in the variant falls between the number of units in Alternatives A and B (about 800 [10%] more units than in Alternative A and 1,500 [18%] fewer units than in Alternative B). The number of households would fall similarly in between Alternatives A and B.

PUBLIC PLANS AND POLICIES

With its emphasis on Port-Related / M-2 uses east of Third Street and mixed-use development west of Third Street, the variant would be more responsive to existing plans and policies applicable to Mission Bay than would Alternatives A or B. The City's Central Waterfront Plan, the Port's Conceptual Maritime Master Plan for the Southern Waterfront, and the regional Seaport Plan encourage the maintenance or expansion of maritime uses east of Third Street in Mission Bay. Port-related uses east of Third Street are consistent with those policies. The variant is intended to preserve the option for a future container terminal at Mission Bay, consistent with Metropolitan Transportation Commission (MTC) and San Francisco Bay Conservation and Development Commission (BCDC) policies.⁷⁷

It is proposed that the wetland park located within the BCDC Port Priority Area could be removed at some later time to allow for future port expansion, if necessary. As with Alternative B, however, the wetlands, once developed, would come under BCDC permit jurisdiction. BCDC approval would be needed for filling the wetlands. However, BCDC policy discourages filling of wetlands; that, as well as public reaction, could make it difficult to remove the wetland park once established.

As noted on p. VLA. 58, BCDC policies cover port activities, public access to the Bay, and wetlands creation and maintenance along the Bay. Both the port uses and wetland area would

be responsive to BCDC policies; the priority between these uses would be a BCDC policy decision.

San Francisco's Central Waterfront Plan calls for a mixed-use residential neighborhood west of Third Street, and port-related uses east of Third Street. The variant generally would be consistent with the objectives of the plan.

LAND USE, BUSINESS ACTIVITY, AND EMPLOYMENT

Land Use Characteristics

The variant represents a change in the land use character of the Project Area commensurate with the change represented by Alternatives A and B (see pp. VI.B.81-VI.B.83). The magnitude of development under the variant could be absorbed by 2020. The Service/Commercial and retail space would generally be oriented to smaller space-users than would the S/LI/RD or office space in Alternatives A, B, and N. Consequently, it would be occupied in smaller increments and occupancy might proceed more gradually. Full occupancy of the large amount of retail space would not occur until the surrounding residential blocks were well-established.

As described below in the analysis of retail activity, the amount of retail space in the variant is large. Consequently, other uses could fill in ground-floor retail space that was not yet absorbed. Public facilities such as a library, community center, senior center, health clinic, and art gallery or other exhibit space would be suitable substitute uses. They would be in addition to the building floor areas permanently designated for community and cultural activities in the variant.

Implications for Employment and Job Opportunities in Mission Bay

The amount of employment in the Project Area under the variant would be relatively small, about 6,700 jobs, similar to the total under Alternative B (about 6,200 jobs). The mix of types of businesses and jobs in the Project Area would be different, however (see pp. VI.B.83-VI.B.88).

In terms of occupations, wage/salary categories, and earnings and skill levels, Mission Bay jobs under the variant would be most similar to jobs under Alternative B. The variant would have proportionally more jobs in sales and service occupations than any of the Alternatives, reflecting the relatively large amount of retail and

other ground-floor commercial space as well as the hotel in this land use program. As a result, there also would be a higher percentage of jobs in the lower wage/salary categories. The wage/salary distribution reflects the relatively high proportion of part-time positions in retail trade and the relatively high proportion of entry-level opportunities in retail, hotel, and service businesses.

The share of jobs in the professional/technical occupations would be about the same as in the Alternatives, due to the preponderance of small professional and other business service offices expected to locate in Service/Commercial space, particularly north of the channel. The share of managerial/administrative and clerical jobs would be lower than under Alternatives A, B, and N, reflecting the absence of a large office complex in the variant. The share of jobs in crafts, operatives and other occupations would be lower than in any of the Alternatives. Under the variant, the number of jobs in the Project Area in this category would be about the same as in 1985; there would be less growth than expected under Alternatives A and N, but the job opportunities of this type would not decline over time as expected under Alternative B.

Over the course of the development period, the number of construction jobs generated would be similar to the number in Alternative B (9,900 person-years, see pp. VI.B.88-VLB.90). There would be somewhat more with the variant because the undergrounding of the CalTrain from Seventh Street to Third Street would be more labor-intensive than the transportation infrastructure work under Alternative B.

Employment Benefits to the Labor Force

As under Alternatives A, B, and N, jobs in the Project Area under the variant would employ San Francisco residents as well as residents of other parts of the region (see pp. VI.B.91-VLB.93). While (as with Alternative B) there would be fewer Project Area jobs for City residents under the variant than there would be under Alternatives A or N, the mix of types of businesses and the amount of housing in the Project Area would mean that a higher share of jobs might be held by City residents.

Implications for Industrial Land Uses and Maritime-Related Activity

The overview description of Project Area business transition and location options presented on pp. VLB.93-VLB.96 would apply for the variant as it applies for Alternatives A, B, and N. In addition, the connection between the Bay and the proposed wetland would displace some

existing uses east of China Basin Street outside of the Project Area. The uses displaced could include the Safeharbor (boat) Service Corporation and Royal Charter Marine Division.

In the variant, about 35 acres of land east of Third Street would be designated Port-Related/M-2. This land, both north and south of the proposed wetlands and neighborhood park, could accommodate distribution, warehousing, transportation-related, manufacturing, construction-related, and maritime-related activities.

There would be more options in the Project Area for those types of businesses under the variant than there would be under Alternatives A and B, and fewer options than there would be under Alternative N. In addition to the smaller amount of land reserved for such uses in the variant compared to Alternative N, the greater mix of uses in adjacent parts of the Project Area (wetlands, parks, housing, and hotel) raises land use compatibility issues that would not exist under Alternative N. Over the long term, there could be conflicts involving Mission Bay residents, the hotel operator, and wetlands advocates and business activities east of Third Street that could be considered nuisance operations (e.g., those generating substantial truck traffic or noise, businesses with cluttered and unattractive storage yards, businesses dealing with chemicals and other waste products).

As under Alternative N, it is unlikely under the variant that there would be a major increase in maritime-related business and employment in Mission Bay. The estimates for the EIR analysis assume a modest increase over the amount of employment in 1985. (See pp. VI.B.101-VI.B.104 for a comparison of Alternatives A, B, and N with respect to maritime-related activity in the Project Area.)

Under the variant, the port-related area east of Third Street adjacent to Piers 48 and 50 could provide enough backland for potential development of a two-berth container terminal at Piers 52-64.^{8/} To accommodate a container terminal east of Third Street, the variant includes the stipulation that "if future expansion space is required by maritime use, the wetlands park may be relocated."^{9/} Consequently, on paper, the variant, unlike Alternatives A and B, does not preclude future container terminal development that would extend into the Project Area east of Third Street. Practically, however, it might be difficult to displace the recreational open space and wetlands uses in Mission Bay (if that were required) after they had become well-established and had a strong constituency. Moreover, potential land use conflicts in the future with

established residential and hotel uses across Third Street could make container terminal development in that area difficult.^{7/}

Retail Activity

The variant incorporates a large amount of retail space (500,000 gross square feet), substantially larger than the amounts in Alternatives A, B, and N. Retail space in Mission Bay would be supported by the spending of Project Area residents and workers as well as by spending of people from outside the Project Area. (For more background on the retail conclusions, see pp. VI.B.104-VI.B.106 and VI.B.117-VI.B.119.) With a supermarket in the Project Area, Mission Bay residents would do more of their convenience shopping in the Project Area than assumed for analysis of Alternatives A, B, and N, none of which are likely to provide for a supermarket site. Accounting for that difference and using a similar methodology to that used to analyze Alternatives A, B, and N, it is estimated that spending by Project Area residents and workers would support about 200,000 square feet of retail space in the Project Area under the variant. Given the relatively small amount of Project Area employment under the variant, most of that retail space would be supported by residents' spending. Of the total amount of space, about 300,000 square feet would have to be supported by spending of people from outside the Project Area.

Mission Bay retail space under the variant would have to include attractions drawing from a larger market area. Certainly, the supermarket would offer convenient grocery shopping to residents of Potrero Hill and South of Market neighborhoods. With the variant, it is unlikely that a supermarket or neighborhood shopping center would be developed elsewhere in the vicinity outside Mission Bay. Moreover, for the large amount of retail space to be absorbed, it is likely that the neighborhood commercial street would develop with a high proportion of eating and drinking places and specialty shopping, attracting people to Mission Bay. Developing such a special character takes a long time. Until that happened, there would be somewhat less occupied retail space in Mission Bay than envisioned in the variant.

Another issue related to retail activity in Mission Bay is the effect on neighborhood commercial streets elsewhere in San Francisco. Under the variant, a successful neighborhood commercial street in Mission Bay would compete more with neighborhood shopping streets nearby (e.g., on Potrero Hill or in the Mission District). There would be less sales growth in those areas than

otherwise, under Alternatives A, B, and N. As mentioned above, such competition would only develop over the long term. Moreover, the special character and flavor of the older, established districts would continue to attract shoppers, including Mission Bay residents. The large amount of new retail development incorporated in the variant would be likely to have more effect on the potential for other new retail in South Beach, Yerba Buena Gardens, Showplace Square, and other South of Market locations.

On the other hand, Mission Bay development under the variant would contribute to sales growth in other retail districts in the City, primarily as a consequence of the spending attributable to the large number of new Mission Bay residents. As in Alternatives A and B, the people living in Mission Bay would shop for such items as apparel, home furnishings, appliances, and automobiles in shopping areas in San Francisco outside Mission Bay. They also would patronize restaurants and shops along the City's many popular neighborhood streets. The spending attributable to Mission Bay residents in other parts of the City would about offset the spending from people living and working outside the Project Area that would be required to support Mission Bay retail space under the variant.

Implications for Nearby Industrial and Commercial Areas

The overview discussion of the timing and types of effects of Mission Bay development on land use, business activity, and employment in Nearby Areas applies for the variant as well as for the Alternatives (see pp. VLB.106-VLB.109). The description of the effects of Alternatives A, B, and N (see pp. VLB.109-VLB.117) also is useful background for the following comparative analysis.

South of Market and Other Parts of the Downtown & Vicinity

Mission Bay under the variant would offer no sites for larger-scale office development. Consequently, there would be more new office development and office employment in other office locations such as the South of Market, South Van Ness and the western C-3 District along Market Street than there would under a development program such as Alternative A, which provides for large amounts of new office development in Mission Bay. In this respect, the variant would be somewhat more extreme than Alternatives B and N, each providing one large office site. No new office development in Mission Bay would mean a faster pace of

development and change in locations in the Downtown & Vicinity that provide sites for office development. It would be more difficult for older businesses and other rent-sensitive activities to remain in those relatively close-in locations.

Mission Bay under this variant would provide some space to accommodate small service, sales, and office businesses. In this respect it would be more like Alternatives A and N than Alternative B. The ground-floor Service/Commercial space in the variant would provide a location option for rent-sensitive businesses that prefer to be close to the downtown, resulting in less demand overall in the South of Market than would Alternative B. The space also would attract small office businesses that otherwise might compete with existing service, distribution, and light industrial uses for space South of Market.

With ground-floor Service/Commercial and retail use under high-density housing in the blocks along Townsend Street in Mission Bay, the variant would be compatible with the South of Market Plan: Proposal for Adoption. Compared to Alternative A, the variant's lower-intensity commercial development along Townsend Street would be more in keeping with the intent of the South of Market Plan to limit the development of that area as a major office corridor. Compared to Alternative B, with solely residential development along Townsend Street, the variant provides ground-floor commercial activity that would serve as a buffer between the adjacent South of Market commercial district and the Mission Bay residential neighborhood. The mix of uses north of the channel in the variant would provide more support to economic activity South of Market and vice versa than would continuation of the above-ground CalTrain commute station and maintenance operations under Alternative N.

Showplace Square, North Potrero / Potrero Hill, Inner Mission, Lower Potrero / Central Bayfront, and South Bayshore

The implications of the variant for the industrially zoned areas west and south of Mission Bay would be similar to those of Alternative B. The Service/Commercial space in Mission Bay under the variant would not provide the location options for expansion of showroom and related activities and larger-scale service and distribution in the Project Area that could be developed in S/LI/RD space under Alternative A and M-2 Industrial space west of Third Street under Alternative N. The relatively small amount of LI/RD space in the variant would be separated from the Showplace Square and North Potrero areas by the CalTrain station and the freeway and thus would

be likely to evolve independent of development trends in those areas. Consequently, as with Alternative B, growth of Showplace Square would be limited to areas west of Mission Bay. Expansion of showroom and related activities in the North Potrero, Potrero Hill, and Inner Mission areas would result in relatively more development activity and change in those areas than expected with Alternatives A or N. Similarly, service and distribution businesses desiring a San Francisco location would look to areas south and west of the Project Area. There also would be demand for space in these areas from older, rent-sensitive businesses that could not compete with the larger-scale office or showroom activities expanding in closer-in locations with the variant.

On the other hand, because of the location options for small office and retail businesses in Mission Bay under the variant, there would be somewhat less conversion and development activity to accommodate that type of demand in the older industrial areas west and south of the Project Area than there would be with Alternative B.

Piers Adjacent to Mission Bay

The land uses proposed for Mission Bay east of Third Street under the variant would not introduce the land use conflicts with active maritime operations on piers adjacent to Mission Bay that would occur under Alternatives A and B. Consequently, as under Alternative N, maritime-related activity could continue longer on the piers adjacent to Mission Bay. Similarly, as described above in the discussion of maritime activity in the Project Area, the variant would reserve land east of Third Street under the Port-Related designation for eventual development of a container terminal facility adjacent to Mission Bay.

The variant would introduce an obstacle to more intensive maritime activity or container terminal development that would not be present under Alternative N, however. Over time, the large wetlands and recreational open space east of Third Street, in combination with mixed-use development west of Third Street, could raise political barriers to more intensive maritime development near Mission Bay.

Implications for Citywide and Regional Growth and Development Patterns

The rationale for determining how the various options for Mission Bay development would affect development patterns and the amount of employment growth in San Francisco and other parts of the region is described on pp. VI.B.119-

VI.B.121. For this aspect of the analysis, the consequences of the variant would be similar to those of Alternative B (see p. VI.B.122). Total Mission Bay employment would be lowest with either the variant or Alternative B, resulting in less employment growth and development dispersed to different locations throughout the region, compared to Alternatives A and N.

Because the variant, unlike Alternatives A, B, and N, does not incorporate a large office complex, there would be less total potential in San Francisco for the back-office and government activities that seek lower-rent office space with large floor-plates. There would be somewhat more office development in locations that compete with San Francisco, such as downtown Oakland and eastern Alameda and Contra Costa Counties.

HOUSING AND POPULATION

Implications for Households and Population in the Project Area

By build-out, Mission Bay under the variant would have 8,500 new housing units and about 16,700 residents. The variant would accommodate more housing units and more population than Alternatives A and N, and less housing and population than Alternative B.

As in Alternatives A and B, new residential development in Mission Bay under the variant would provide a mix of types and sizes of new units and would accommodate a mix of different households and people. The general description for Alternatives A and B on pp. VI.C.64-VI.C.65 would apply for the variant as well.

There would be some differences in the types of new housing provided in Mission Bay under the variant. One difference would be that a larger percentage of the new units would be affordable: 50% compared to 30% for Alternatives A and B. Another difference would arise because the mix of housing among density categories would include proportionally more higher and lower density units. Differences in density would result in proportionally more larger and smaller units and proportionally fewer average size units in Mission Bay under the variant, although the overall average space per unit is assumed to be similar to that for Alternatives A and B (averaging 850 square feet per unit overall).

As a result of differences in the characteristics of the housing built under the variant, there would be differences in the characteristics of households

and population in the Project Area. Average household size in Mission Bay would be larger than that under Alternatives A and B, reflecting proportionally more families with children. Although there would be more workers per household, on average, employed residents would represent a smaller percentage of Project Area population. There also would be differences in household incomes. As a result of the higher percentage of affordable housing, households in Mission Bay would have lower average incomes under the variant as compared to Alternatives A and B.

Like Alternatives A, B, and N, the variant would include the houseboat community. Under the variant, Mission Bay also would include 200 live/work units that would not be built in the Project Area under the Alternatives. (The 200 live/work units are included in the total of 8,500 new housing units discussed above.)

Implications for Nearby Residential Areas

The implications of Mission Bay development under the variant for nearby residential neighborhoods would be similar to those of Alternatives A and B (see pp. VI.C.86-VI.C.92). As with those Alternatives, a strong direction for the types of changes attributable to Mission Bay development is difficult to predict, since the various features of the variant would have offsetting implications.

Since the variant would represent an upgrading of the urban environment in that sector of the City, it could potentially contribute to increased demand for housing in those older residential neighborhoods in the vicinity. On the other hand, the variant would add a large amount of housing to the City's stock, absorbing some of the demand for housing that otherwise would contribute to gentrification in nearby neighborhoods.

For residents of nearby neighborhoods, the variant would provide more in the way of community services, cultural, recreational, and open space resources, and retail shopping opportunities than would Alternatives A, B, and N. Some of the amenities also would serve as citywide resources.

Project Area Jobs/Housing Relationship and Implications for the City's Housing Market

Relationship Between Project Area Employment Growth and Housing Development

The City's OAHPP requirements relating housing production to the development of office space

would not apply under the variant since it does not include office development as a future land use in the Project Area./10/

As with Alternatives A and B, the number of housing units built in the Project Area would exceed the number of units needed in San Francisco to accommodate Project Area employment growth. The estimated number of units to accommodate additional San Francisco households with Project Area workers (about 860) would represent about 10% of the number of new housing units built under the variant (8,500)./11/ The remainder would represent housing available to accommodate other demand besides that associated with Mission Bay employment growth, thus improving the City's ability to accommodate other households looking for housing in San Francisco.

The additional San Francisco households under the variant would require about 745 housing units in the affordable category./11/ Those units would represent about 9% of new Mission Bay housing, a much lower percentage than the 50% assumed to be priced at affordable levels. However, some households with Project Area workers would have incomes below the levels needed to pay the affordable new housing prices assuming prices similar to those for affordable housing in Alternatives A and B.

For comparison, the jobs/housing analysis for Alternatives A, B, and N is presented in text and tables on pp. VI.C.70-VI.C.77.

Comparison with the Alternatives and Implications for Citywide Housing Market Conditions

Compared to Alternatives A, B, and N, the variant would accommodate a relatively large amount of new housing, would add the largest number of affordable housing units, and would accommodate a relatively small amount of employment growth in the Project Area. The variant would be most similar to Alternative B in its effects on the City's housing market. (See pp. VLC.81-VI.C.86 for general discussion of the implications for citywide housing market conditions.)

Compared to Alternative B, the variant would accommodate a similar amount of employment growth, would add less market-rate housing (2,750 fewer units) and less total housing (1,500 fewer units) in the Project Area, but would add more affordable housing (1,250 more units). The large amount of housing in Mission Bay would expand the City's housing stock across a range of prices and rents, thereby relieving demand

pressures that otherwise would exist. The new housing would accommodate households that otherwise would compete for existing housing. Of particular benefit to the market would be the addition of affordable housing since such units are difficult to produce in San Francisco and will remain in strong demand in the future.

Compared to Alternative B, the variant is likely to be more beneficial to those in the market for affordable housing (units priced just below that required for market-rate housing), while Alternative B would provide more benefit in the middle range of the market (housing priced at or just above the threshold price required to develop market-rate housing).

Implications for the Housing Market in the Rest of the Region

Mission Bay under the variant, and the citywide cumulative context of which it would be a part, would contribute to regional housing market conditions in the future. The effects of the variant would be similar to those with Alternative B (see pp. VI.C.92-VI.C.97).

Regional housing market conditions are not expected to differ substantially as a result of the choice of a development program for Mission Bay. The development program for Mission Bay would influence the source and location of housing demand in the region but would have little effect on the total magnitude of regional housing demand and on overall regional housing market conditions.

COMMUNITY SERVICES, CULTURAL FACILITIES, AND INFRASTRUCTURE

Space for a wider variety of community and cultural facilities would be provided by the variant than by Alternatives A and B. Community and cultural facilities in the variant would include publicly owned uses similar to those defined as community facilities in Alternatives A and B, as well as privately owned facilities such as theaters, child care centers, and art galleries. Community facilities in the variant could include a library, senior center, health center, recycling center, school, and fire and police facilities.

Fire Protection

In 2020, about 8% more fire/non-fire incidents would be expected under the variant than in Alternative B, which has the highest number of incidents among the EIR Alternatives./12/ As in

Alternatives A and B, both an engine company and truck company, with accompanying personnel, would have to be added to maintain adequate levels of service in Mission Bay and the surrounding areas. As in Alternative A, renovation and expansion of closed Fire Station 30 could accommodate required firefighting equipment and personnel. As in the Alternatives, the existing high-pressure water system would need to be upgraded to serve the interior portion of the Project Area adequately.

Police Protection

By 2020, the number of police incidents would be about 13% lower than the number of incidents in Alternative A and about 16% lower than the number of incidents in Alternative B due to the different mix of land uses (i.e., less office space development than that in Alternative A and a smaller residential population than that in Alternative B).^{13/} The wetlands area could provide a gathering place for transients. As in Alternatives A and B, the need for additional police personnel could not be accommodated in existing police stations. Personnel, equipment, and space requirements would be about the same as those in Alternatives A and B.

Public Schools

The variant would have a greater impact on SFUSD enrollment than would any of the Alternatives. Approximately 2,000 SFUSD students are projected to live in the Project Area under the variant in the year 2020, about 38% more than the number of students under Alternative A and about 7% more than the number of students under Alternative B. As in Alternatives A and B, existing schools in the adjacent Nearby Areas and the district as a whole would not have sufficient space to accommodate these students. Project Area students would require about 34 elementary classrooms, 17 middle-school classrooms and 23 high-school classrooms (representing about two elementary schools, about one-half of a middle school, and about one-third of a high school). About 120 teachers/staff members would be needed. If developed for an elementary school, the 1.9-acre area northeast of Owens Street could accommodate 460 elementary students, about 23% of the total number of students projected to live in the Project Area.

Parks and Open Space

Figure VII.8 (shown in this volume on p. XV.P.10) shows the open space network for the variant. Open space provided encompasses

the following two major areas and several smaller parcels:

- Mission Bay Park: A 36.5-acre area between Third Street and China Basin Street, north of 16th Street. The area includes a wetlands in the center and separate areas for active recreation and a community garden. A recycling center would occupy the southwest corner.
- Mission Creek Park: A 38-acre area along the north and south sides of China Basin Channel connecting to a larger open space area west of the channel bounded by Townsend and Seventh Streets, providing active and passive recreational opportunities.
- Neighborhood Parks: 17.9 acres of smaller neighborhood parks and open space areas scattered throughout the Project Area.

The variant would provide 92.4 acres of open space, including the 20-acre wetland and 12-acre China Basin Channel, an amount similar to that provided in Alternative B (94.1 acres). The variant could pose some land use compatibility problems (e.g., noise) between port-related industrial uses and wetland/recreational uses south of the port area. If a container terminal were developed in the future, it would likely pose a potentially greater land use conflict than smaller-scale maritime activity. Active recreation activities surrounding the wetlands area also pose compatibility issues. A minimum 100-foot buffer zone would be needed to separate wetland marsh from other recreation activities within the open space park.

The variant would respond to applicable open space policies with the exception of Policy 1 of the Recreation and Open Space Element, which calls for the City to increase the per capita supply of open space to the extent it reasonably can above the current ratio of about 5.5 acres per 1,000 population. With about 80.4 acres of open space provided, excluding the 12-acre China Basin Channel, the variant would provide about 4.8 acres per 1,000 population (as compared to 3.0 acres per 1,000 population in Alternative A and 4.4 acres per 1,000 population in Alternative B). As with Alternatives A and B, the variant would not meet National Recreation and Park Association (NRPA) standards of five acres per 1,000 residents for neighborhood-serving and district-serving open space.^{/14/} Park personnel requirements would be similar to those of Alternative B (40 persons).

Other Facilities and Services

By the year 2020, Mission Bay residents, employees, and businesses would generate about the same water demand as Alternative B. As in Alternative B, the variant may require relocating the existing 12-inch line east of China Basin Street for construction of the wetlands south of Pier 54.

By the year 2020, wastewater generated by Mission Bay residents, employees and businesses would be approximately 18% less than that for Alternative A and 7% less than that for Alternative B. This would not affect the City's current treatment or collection capacity.

Under the variant, a parcel west of Third Street has been identified for a library/community center. As with Alternatives A and B, Project Area and nearby population levels would not meet San Francisco Library criteria for a new branch library (see p. VLD.92).

Impacts on other community services would be similar to impacts in Alternatives A and B.

TRANSPORTATION

Estimated travel demand generation for the analysis, as for the Alternatives, is based on the number of employees and employed residents estimated for the Project Area. While the types of jobs differ between this variant and Alternative B (specifically, no office buildings in this variant), assessment of cumulative travel demand generated by this variant (relative to Alternative B) indicates that differences in cumulative transportation impacts would not be significant.

The variant would have about 1,935 fewer residents (and 1,450 fewer employed residents) than would Alternative B, resulting in about 13% less p.m. peak travel demand entering the Project Area compared to Alternative B. Because there would be about 490 more employees projected for this variant compared to Alternative B, there would be about 8% more p.m. peak travel demand leaving Mission Bay.

The net result for total p.m. peak-period travel demand generated by this variant would be about 9% below that forecast for the Project Area for Alternative B and would not significantly change projections of either cumulative screenline travel demand or intersection levels of service.^{/15/}

Fewer housing units within the Project Area compared to Alternative B, however, would mean fewer opportunities for downtown employees to live in the Downtown & Vicinity, thus increasing cumulative commute trips that would cross MUNI or regional screenlines.

The placement of Port-Related/M-2 uses east of Third Street, 680,000 square feet of Service/Commercial uses along Third, Fourth and Townsend Streets and, to a lesser extent, of 500,000 square feet of retail space chiefly on Long Bridge Street would shift Mission Bay employment, relative to Alternative B, from the west side of the Project Area (on Owens Street) to the east and north sides. These changes would result in more p.m. peak-period traffic flows away from the Project Area along Third and Fourth Streets, but fewer housing units would result in less p.m. peak-period traffic into the Project Area. Project Area intersections forecast to be congested, operating at Level of Service (LOS) D or E in 2020, however, would not be expected to be further degraded from levels of service projected for Alternative B (see Table V.I.E.26, p. V.I.E.168).

Off-peak travel demand within the Project Area associated with Service/Commercial and retail uses would be higher under this variant than under the Alternatives (see also the Transportation discussion in Variant 4 on pp. VII.28-VII.29), although many of these trips would be expected to be by pedestrian and transit travel.

Parking supply rates and demand ratios used for the variant are the same as those used for Alternative B. Service/Commercial uses under this variant would supply one off-street parking space per 1,000 square feet of floor area (used for office, S/LI/RD, and retail uses for Alternatives A and B) and would generate a parking demand of 1.46 spaces per 1,000 square feet of floor area. The proposed development in this variant would provide approximately 11,130 off-street spaces. An estimated parking demand of about 12,145 spaces for this variant would result in a parking deficit for the Project Area of about 485 spaces.^{16/}

Peak parking demand associated with a 400-seat and two 200-seat theaters (cultural facilities) would be expected to occur primarily on weekday evenings and weekends, when there could be available parking off-street as well as on-street. To the extent off-street spaces were not accessible, on-street spaces on blocks with ground-floor retail or Service/Commercial uses would potentially be available. An estimated 95 and 130 on-street spaces on such blocks would be

within a reasonable 1,500-foot walking distance of the 200-seat theaters at King and Fourth Streets, and 16th and Long Bridge Streets, respectively. About 185 on-street spaces would be within walking distance of the 400-seat theater proposed to be in the center of the housing units south of China Basin Channel. Because those spaces could also be in demand for other competing uses, it is likely that parking demand from those cultural facilities would generate impacts on adjacent residential blocks. The proximity of MUNI transit lines to these theaters, however, would also decrease some of this potential parking demand.

Parking impacts could also be associated with open space and recreational facilities, and would depend on the type of activity occurring there. The plan for this variant shows provision of off-street parking only for the wetlands park and adjacent sports facilities east of Third Street. Peak parking demand related to these uses would most likely occur on weekday evenings or on weekends, when there could be available parking off-street as well as on-street, although some spillover parking demand could occur in adjacent residential areas. Mitigation measures to reduce parking impacts for Alternative B (described in V.I.E. Transportation, pp. V.I.E.207-V.I.E.209 and pp. V.I.E.222-V.I.E.223) would apply to this variant as well.

Freight loading and service vehicles connected with Service/Commercial uses on Third and Fourth Streets would generate more truck traffic and demand for off-street loading spaces on these major north-south thoroughfares. The Transportation Element of the Master Plan identifies both of these streets as Transit Preferential Streets. The Planning Code (Section 155) discourages access to loading from streets so designated to reduce conflicts with transit vehicles. Truck loading access south of the channel, however, could be provided from alleys parallel to Third Street to minimize this impact.

The proposed 400-room hotel, fronting on Third Street just south of China Basin Channel, is not part of Alternative B. Compared to the hotel in Alternative A, this site is much smaller in area and access is restricted to only one major street. Its location precludes access for loading and service vehicles from any street other than Third Street. Circulation of taxis and airport shuttle vans accessing the hotel could also affect traffic flow conditions on Third Street.

The variant proposes CalTrain run underground from just south of the China Basin Channel to an underground station to be built under King Street

between Third and Fourth Streets. King Street, rather than the current Townsend Street, would be the site of the underground station, as that location is compatible with convenient passenger transfer from a stop on the proposed MUNI Metro line on King Street. From the King Street station, CalTrain could be extended downtown at some future time, subject to decisions and actions by the Peninsula Corridor Study Joint Powers Board. Variant 9, CalTrain Station Location (Alternatives A and B), pp. VII.51-VII.54, discusses the impacts of retaining the CalTrain terminal generally at its current site, i.e., not relocating the terminal to Seventh and Channel Streets. Some of those findings would be similar for this variant, as follows:

- CalTrain's future ridership could be up to about 22% higher, and ridership on BART (West Bay) and SamTrans could be about 9% and 11% lower, respectively, than the cumulative forecasts for the South Bay screenline for Alternative B. Levels of service would be at LOS C or better on these transit modes, with no significant differences projected from forecasts for Alternative B.
- Vehicle volumes on Highway 101 and I-280 at the South Bay screenline would be about 5% less than the volumes presented for Alternative B. For U.S. 101, this would not result in any substantial change in the duration of congestion (about three hours in 2000, over three hours in 2020) or operating LOS during the p.m. commute period.
- MUNI bus routes which would continue to serve the CalTrain Station at Fourth and King Streets might not be extended to Seventh and Channel Streets, but could be extended past Fourth and King Streets through the Project Area on different alignments.
- The peak pedestrian concentration would not be at Seventh and Channel Streets, but would remain near where it is now with pedestrian travel flows to and from downtown north of Third, Fourth and King Streets.

MUNI's 1987-1992 Short Range Transit Plan calls for extension of Metro service via a reconstructed roadway on The Embarcadero and King Street to the CalTrain terminal at Fourth and Townsend Streets. Further extension of service through the Project Area would be the subject of negotiations for the Development Agreement for Mission Bay. This variant would extend MUNI Metro past the CalTrain station to Seventh and Channel Streets near the proposed MUNI yard. MUNI's long-range plan is to extend Metro service to the south to serve the Bayshore Corridor. The implications of extending MUNI

Metro into Mission Bay on this long-range plan are discussed on pp. VI.E.196-VI.E.197.

Although specifics, such as the number of lanes on Project Area roads, have not been defined, the roadway network under the variant would generally share the freeway and street characteristics of the three Alternatives. As with the Alternatives, alignment of all streets in the Project Area north of China Basin Channel would follow the existing South of Market grid. South of the channel, the street grid would follow a mixed grid (South of Market grid generally west of, and the Third Street grid east of, Long Bridge Street).

Differences include expanded access between the Project Area south of China Basin Channel and existing neighborhoods to the west via a connector street from Owens Street to Seventh Street near Hooper Street. CalTrain tracks would be underground at this location. This would have the effect of diverting some traffic that would otherwise use 16th Street across Seventh Street. Although diversion would occur throughout the day, the greatest diversion would occur during the p.m. peak period primarily because of delays from increased CalTrain operations across 16th Street to/from its terminal during this period. Drivers could use Hooper Street to avoid the downed railroad crossing gates. Congestion would be reduced at the intersection of Seventh and 16th / Mississippi Streets, and the p.m. peak-hour level of service could be improved by up to one service level.

AIR QUALITY

As with Alternatives A, B, and N, motor vehicle exhaust emissions would be the primary source of pollutants with this variant. Vehicle miles traveled, and therefore air emissions, in the variant would be about the same as those in Alternative B./17/

As in Alternative B, emissions of carbon monoxide, hydrocarbons, and nitrogen oxides from vehicle trips generated by the variant would exceed 1% of county-wide emissions of those pollutants, and thus would be considered potentially significant by the Bay Area Air Quality Management District. Roadside carbon monoxide concentrations in the vicinity are expected to be within state and federal standards. As in the Alternatives, although the variant would be consistent with 1982 Bay Area Air Quality Plan strategies encouraging development in established areas, the land use and population projections for the variant exceed those on which the plan was based.

NOISE

The effects of the local noise environment on the variant, and the variant's effects on the local noise environment, would be similar to those of Alternative B. Noise from port-related uses near the wetlands could affect wildlife. With the undergrounding of CalTrain and the removal of the existing CalTrain station, noise impacts from CalTrain would be reduced. As with Alternatives A, B, and N, future noise levels in the Project Area with the variant would noticeably increase over existing noise levels due mainly to increased traffic.

ENERGY

Energy consumed in construction of the project and project-related transportation would be about the same as that in Alternative B. Total operational energy consumption by buildings under the variant would be about 4% lower than the amount under Alternative B.

ARCHITECTURAL RESOURCES AND URBAN DESIGN

As with Alternative A, the variant would retain architecturally interesting Fire Station 30 (at the intersection of Third, Fourth and Mission Rock Streets) for community facilities. The character and scale of development under this variant would be generally similar to, but more uniform than, the character and scale of development under Alternative B. As with Alternatives A and B, the variant would represent a change from predominantly low-rise, industrial buildings to mixed-use neighborhoods. The scale of development in the variant would generally increase toward the north, varying from townhouses and flats at the southern end of Mission Bay to eight-story HDR buildings north of China Basin Channel. Effects of the variant on long-range and street-level views would be similar to effects under Alternative B.

East of Third Street, the variant would differ from Alternatives A and B by providing generally low-to mid-rise Port-Related / M-2 uses west of Piers 48 to 50 and a wetlands park south to 16th Street. Alternatives A and B generally have residential, open space, and S/LJ/RD uses east of Third Street.

CULTURAL RESOURCES

As in Alternatives A and B, development under the variant would take place in areas that could

contain subsurface artifacts (see Figure VI.J.1, p. VI.J.17). Potential impacts would be similar to those under Alternatives A and B, although excavation required to underground CalTrain could increase the potential to disturb cultural resource areas.

GEOLOGY AND SEISMICITY

Similar to Alternatives A and B, the variant involves development of housing and commercial uses in a seismically active region, and in an area of San Francisco susceptible to earthquake hazards. Casualties in the Project Area from a daytime earthquake (2:00 p.m.) would be about the same as casualties in Alternative B, as the daytime population (employees, unemployed residents, and 40% of hotel guests) would be about the same.

VEGETATION AND WILDLIFE, AND WETLANDS HYDROLOGY

Mission Creek Park

Approximately 18 acres of Mission Creek Park surrounding China Basin Channel would be north of the channel. There also would be approximately four acres of small park-like public open spaces adjacent to residential buildings. As with Alternative B, the channel would not be dredged. The north edge would be gabions, riprap, or similar edge treatments along the channel. The linear open space parallel to the channel would have a high level of human activity. Other wildlife species that might benefit from the park as an increase in habitat would be animals that are not sensitive to human activity. The species using the area would be similar to those expected to use the park-like open space along the channel in Alternatives A and B.

Approximately nine acres of Mission Creek Park would be along the south bank of China Basin Channel. About 300 feet of the channel bank would be changed and the remainder left in its existing condition. As with Alternative A, increased human activity in the vicinity could substantially reduce or eliminate heron and egret use of the shoreline. Some birds may continue to rest on the banks and on piers and pilings and to fish and hunt along the south bank. The bank could be improved for animal use by reducing the elevation of the fill in the park area to broaden the zone in which marsh plants will grow. Pickleweed would spread readily and plants such as jaumea, salt grass, gum weed, and salt marsh lavender could be planted. Ducks and other water birds may use the widened bank as a resting area.

Small Parks

South of Mission Creek Park, neighborhood areas of park-like open space are proposed. This open space would receive a high level of human activity and provide habitat only for those species of wildlife which are not sensitive to human presence. Animals and birds expected to use these areas are the same as those expected in the high-activity open space north of the channel.

Mission Bay Park

A 20-acre tidal wetland would be developed in the central portion of a 36-acre park east of Third Street between Piers 50 and 64. Under this variant, a low, ruined wooden pier to the south of Pier 54 would be removed. The wetland would be created by excavating the portion to be exposed to tidal service and connecting this to the Bay just south of Pier 54 by means of a breach under China Basin Street. The upland portions of the park would contain active recreational uses.

Wetlands

Berms would be placed between the high-activity areas of the park and the tidal marsh area. These berms would act as sound barriers and also screen the visual impact of human activity from sensitive species in the marsh. The crest of the berms and hills would also create viewing positions for marsh visitors to sit on, but active sports such as frisbee throwing should be discouraged. This may be done by placing large rocks on the knolls so that they give an appearance of rock out-croppings. Around these rocks, native upland shrubs, trees, and grasses may be planted. The tidal marsh and buffer area should be hard edged or fenced to prevent wildlife disturbance by human and domestic animal intrusion. To protect wildlife from disturbance, signs should be posted on the park side of berms and hills to indicate that users should avoid active sports, such as jogging, in sight of the marsh. The topographic relief would serve to divert surface runoff away from the tidal wetland and into City storm sewers. This would help to prevent the addition of non-point source pollutants such as fertilizers to the wetland ecosystem. It would also serve to protect the surrounding areas in the event that mean sea level (MSL or National Geodetic Vertical Datum [NGVD] 0.0) increases due to the greenhouse effect (see the Response on pp. XVJ.3-XVJ.5 in XVJ. Hydrology and Water Quality).^{/18/}

If 20 acres are devoted to wetland, it may be difficult to fit in all of the other active uses in the remaining 15 acres; the narrowest "buffer" zone acceptable to the U.S. Fish & Wildlife Service and the California Department of Fish and Game

between human activity (the path) and the wetland is 100 feet.^{/19,20/} A special study prepared by Wetland Research Associates for the City suggested a 100-foot buffer zone between the edge of the wetland and the higher-use upland area, and 150 to 200 feet between public areas and mudflat areas.^{/21/}

Wetlands Hydrology

The tidal range within the wetland would be approximately five feet or 83% of the tidal fluctuation in San Francisco Bay, were the wetland designed as follows: a total wetland surface of 17 acres; a shallow, 100-foot-wide perimeter area; average depths of 10 feet in channel and main body of the wetland; a 50-foot trapezoidal breach that is 200 feet in length; and tidal ranges that average six feet on the Bay side of the breach. The wetland would hold about 4.6 million cubic feet of water when the tide is at mean sea level, and with each tidal cycle it would exchange 1.3 million cubic feet. The peak velocities in the channel would be 0.8 foot per second and could be as high as 1.0 to 1.2 feet per second but are not expected to cause scour at these velocities.

It is estimated that 415 cubic feet of groundwater would seep into the wetland during each tidal cycle and since there is a tidal exchange of 1.3 million cubic feet, there would be a dilution factor for infiltrating groundwater of 3100:1. The existing piers (e.g., Pier 54) would not interfere with dilution and mixing of the water and thus would not affect water quality. The pilings may provide protection from storm winds and waves which approach the site from the northeast. The main impact of the continuing presence of Pier 54 is visual: visitors to the park would not be able to see as much of San Francisco Bay.

In conclusion, there appear to be no major obstacles to prevent the wetland from functioning adequately from a hydraulic standpoint although, as with the wetlands in Alternative B, more design work must be done before the relative feasibility of the wetland is firmly established. The design must consider: 1) the properties of the fill and Bay Muds at the site; 2) the hydrogeologic and geotechnical feasibility of dry dredging the wetlands^{/22/}; 3) basic hydrogeologic and water quality data on the role of groundwater inflow on the new wetland and the benthic organisms and wildlife which inhabit it; and 4) specification refinements to enable hydraulic and sediment accretion studies to be carried out on the connecting channel and channel mouth.^{/23/} (Refer to Mitigation Measures M.6 and M.7 on p. VI.M.23, M.14 and M.15 on p. VI.M.25, and N.1, N.2 and N.3 on pp. VI.N.39-VI.N.43.)

As with wetlands in Alternative B, actions with reference to the quality of the soil and groundwater might be as follows: 1) test soils for hazardous materials and map concentrations of materials/debris; 2) make decisions about feasibility of site and method of approach; 3) if feasible to continue, place sheet pile wall or dam along China Basin Street to exclude tidal water; 4) if necessary, enclose proposed tidal marsh area with an "invisible barrier." This barrier may be a slurry dam, or a sheet pile or concrete wall located under the path location and continuous around the marsh from ground level to approximately -15 or -20 feet NGVD (-23 or -28.6 feet San Francisco City Datum).

Wetlands vegetation and wildlife would be subject to approximately the same conditions as in Alternative B. Net benefit of the variant lies in the larger contiguous acreage requiring a smaller percent of total acreage for perimeter (i.e., buffer zone, wall, high marsh). For example, 20 acres in a square or rectangular parcel would allow for almost 16 acres of habitat if developed with a 100-foot-wide buffer around the perimeter. Were the same 20 acres subdivided into three parcels, the useable acreage would be reduced by 17% to 13.2 acres.

HAZARDOUS WASTES

Surface soil, subsurface soil, and groundwater at Mission Bay could potentially be contaminated with hazardous wastes. Overall impacts would be similar to those in Alternatives A and B. However, undergrounding of CalTrain from 16th Street to the proposed underground terminal would require considerable excavation, with increased opportunities to encounter potential hazardous waste deposits. The CalTrain right-of-way passes through portions of Mission Bay that have been used by chemical industries, oil storage and processing facilities, and rail trackage.

If the Mission Bay Hazards Mitigation Program were to apply to the variant as it would to Alternatives A and B, portions of the Project Area proposed for development in the variant and appropriate buffer zones would be investigated, and any necessary clean-up would be completed before work in each development phase area began.

GROWTH INDUCEMENT

Generally, the growth inducement effects of the variant would be similar to those of Alternative B. (See pp. VI.O.1-VI.O.9 for description of

relevant growth inducement issues and comparison of Alternatives A, B, and N.) Most of the growth inducement issues (net addition to citywide employment and population, regional development patterns, and spillover effects in Nearby Areas) are discussed in the Land Use, Business Activity, and Employment section and the Housing and Population section of this analysis of the variant. Regional growth inducement issues and multiplier effects are summarized below.

As with Alternative B, the variant would result in more induced growth and impacts dispersed throughout the region and less total growth in San Francisco, compared to Alternatives A and N. That is because some of the business growth (particularly office activity) not accommodated in Mission Bay under the variant would instead locate in other parts of the region outside San Francisco.

As with the Alternatives, economic activity in Mission Bay under the variant would support and would be supported by economic activity elsewhere in the City and the region. Those economic inter-relationships are identified as multiplier effects. The magnitude of multiplier effects associated with the variant would be similar to the situation with Alternative B. Both would generate a smaller amount than either Alternative A or Alternative N.

MITIGATION

Mitigation measures for Alternative B (see Mitigation sections in Chapter VI Environmental Setting, Impact and Mitigation) would apply to this variant, with the following additions to Measure M.5, in VLM. Vegetation and Wildlife, p. VLM.22, that pertain to wetlands. (New Mitigation Measures M.5f and M.5g, given in XV.K. Vegetation and Wildlife, p. XV.K.4, would apply to Variant 11 also.)

The wetland east of Third Street would enhance the marginal wetland area currently located along the banks of China Basin Channel, as well as provide expanded wetland habitat opportunities in the Project Area.

The design of the wetland should include the measures identified below:

- Level the design slope between the elevations of 2.5 and 3.5 feet NGVD (-6.1 and -5.1 feet San Francisco City Datum) to maximize the pickleweed zone or marsh plain within the wetland. Secondly, level design slope

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P. Alternatives and Variants

between -2.5 and +1 feet NGVD (-11.1 and -7.6 feet San Francisco City Datum) to maximize the area serving as mudflat habitat for invertebrates. (For Variant 11, this would replace Measure M.9, p. VI.M.24.)

- Grade three islands to the elevation of 2.5 to 3.5 feet NGVD (see paragraph above). Provide small areas of refuge that reach an elevation of +6 feet NGVD (-2.6 feet San Francisco City Datum). Grade two islands to an elevation of +6 feet NGVD. That would provide protected nest sites for birds and a refuge from high tides for small mammals. (For Variant 11, this would replace Measure M.10, p. VLM.24.)

The following new notes, the reference marks for which appear in Variant 11, are added after note /6/ on p. VII.57:

- /7/ However, amendments to the MTC/BCDC Seaport Plan, approved March 16, 1989, would permit deletion of the designation of Piers 52-64 as Near-Term marine terminals suitable for container development use if:
 - 1) All of the former Western Pacific property at Warm Water Cove is transferred from Santa Fe Pacific Realty Corporation to the Port (see p. V.42 regarding this land exchange), and
 - 2) The Port and City develop a strategy to ensure Port-Priority Use Areas are reserved for port purposes, and non-port-owned areas needed for marine terminal uses at Piers 70 to 80 are available.
- /8/ The amount and configuration of land is close to but not exactly that shown for the Pier 50-Alternative 4 concept described in San Francisco Department of City Planning, "Container Terminal Options," Mission Bay, San Francisco, Special Study for Mission Bay, prepared by Moffat and Nichol Engineers, September 1986, pp.16, 33-35.
- /9/ Regina Sneed, Mission Bay Clearinghouse, letter to Sue Bierman, President, and Members of the Planning Commission with three-page summary of the Mission Bay Citizens' Alternative, November 17, 1988.
- /10/ Office uses that might occupy space in the Service/Commercial land use category are assumed to be smaller businesses in buildings offering less than 50,000 square feet of space for office tenants. (The OAHPP require-

ments do not apply to office development under 50,000 square feet.)

- /11/ The estimate of additional housing units to accommodate San Francisco households with Project Area workers and the estimate of additional housing units in the affordable category were developed using the approach followed in analyzing the jobs/housing relationship for Alternatives A, B, and N. The approach is described on pp. VI.C.68-VLC.70, and background is provided in Volume Three, Appendix C, pp. XIV.C.29-XIV.C.37. Values in the calculations that reflect the cumulative context were estimated for the variant based on the work done for Alternatives A, B, and N. Background on the calculations is provided in working papers available for review at the Department of City Planning, 450 McAllister, San Francisco.

The live/work land use in the variant was evaluated separately from the other land uses, and the results were combined to produce the estimates presented herein. The evaluation of the live/work use followed a comparable approach to that used for evaluating the other land uses, adjusting for differences in the jobs/housing characteristics of live/work activities and using additional data from the 1984 South of Market Artist Live/Work Space Survey conducted by the Department of City Planning.

- /12/ As in Alternatives A and B, as the ratio of residential uses to other uses in the Project Area increases, the proportion of good intent and rescue calls would increase while the proportion of building fires and hazard calls would decrease. Because of the higher proportion of affordable units in the variant, more medical/service calls would be expected.
- /13/ Compared to Alternative A, more domestic violence and residential burglary incidents and fewer commercial burglaries and thefts would be expected due to the greater proportion of residential uses and no office development. Compared to Alternative B, there would be fewer domestic violence and residential burglary incidents but more commercial burglaries and thefts.
- /14/ Use of a standard to estimate open space demand has several shortcomings. Standards address quantity, but not type and quality of open space or how well it is designed, meets community needs, or reflects current leisure needs and preferences. Standards do not account for socioeconomic changes in a community over time and may or may not be

realistic in light of a community's ability to implement them.

- /15/ VI.E. Transportation contains an extensive discussion of travel demand forecasting for the Project Area, Downtown & Vicinity, and the rest of the region, and the effects of this projected travel demand on operating conditions at screenlines (highways and transit), local intersections and on MUNI routes serving the Project Area. For highways at the regional screenlines, at build-out (see Table VI.E.14, pp. VLE.106-VLE.107, and Table VLE.15, pp. VLE.108-VLE.109), small numerical differences in outbound traffic during the p.m. peak period and hour among Alternatives A, B and N do not produce significantly different impacts in terms of the duration of congestion. For transit systems (see Table VI.E.16, pp. VLE.115-VLE.116; Table VLE.117, pp. VLE.117-VLE.118; Table VI.E.18, pp. VLE.119-VLE.120; and Table VI.E.19, pp. VLE.121-VLE.122), cumulative transit ridership at screenlines is forecast not to be different among Alternatives A, B, and N, except for the South Bay screenline. A significantly higher CalTrain ridership under Alternative N than under Alternatives A or B could be caused by the relocation of the San Francisco CalTrain terminus further from the downtown employment center with the latter Alternatives. As shown in Table VI.E.20 (p. VLE.130), however, there would be no significant differences in cumulative outbound transit levels of service during the p.m. peak period and hour among the Alternatives. For local intersections (pp. VLE.166-VLE.175), very few differences exist among Alternatives A, B, and N for 2020 Levels of Service (Table VLE.26, pp. VLE.167-VLE.168), and these few differences are too small to be considered significant. For MUNI routes serving the Project Area, 2020 Levels of Service (Table VLE.27, p. VLE.177) with Alternative B would be worse than with Alternatives A or N, as the larger number of residents in Alternative B would generate more southbound (peak direction) p.m. peak-period trips than would the other Alternatives. The numerical differences in travel demand among Alternatives A, B, and N are greater than those between Alternative B and this variant.
- /16/ On-street parking space availability for Project Area demand in all Alternatives and variants assumes spaces on residential streets, beyond 1,500 feet from non-residential uses,

on Project Area boundary streets, or on streets with traffic flow parking restrictions such as King and Third Streets, are not available for commercial parking demand.

- /17/ Vehicle trips generated by the variant would be about 9% lower than vehicle trips generated by the Project Area under Alternative B; however, some commute trips could be longer than those under Alternative B, due to less Project Area housing and thus fewer opportunities for downtown employees to live in the Downtown & Vicinity as compared to Alternative B.
- /18/ Williams, P.B., "An Overview of the Impact of Accelerated Sea Level Rise on San Francisco Bay," Philip Williams and Associates, Project #256, San Francisco, California, 1985.
- /19/ Peggy Kohl, Endangered Species Office, U.S. Fish and Wildlife Service, Sacramento, California, telephone conversation, March 1989.
- /20/ Gary Page, Director of Ocean and Estuarine Research, Point Reyes Bird Observatory, Stinson Beach, California, telephone conversation, March 1989.
- /21/ San Francisco Department of City Planning, "Wetland Habitat Creation at Mission Bay Project Site between Piers 48 and 50: A Special Study for Mission Bay," prepared by Wetlands Research Associates, September 1986, portion of Special Study for Mission Bay.
- /22/ Dry excavation of the site of the future wetland which takes place behind a barrier capable of excluding all water from the site. Sheet piles are often used for this purpose. Some water may be present in the spaces in the rubble which makes up the site substrate.
- /23/ Roberts, B. and B. Hecht, "Initial Hydraulic Assessment: Mission Bay," prepared for ESA by Balance Hydrologics, Inc., Berkeley, California, 1989.

A summary of Variant 11 (EIR Hearing Proposal) is added to Volume One, Chapter II. Highlights & Conclusions (Variations on Alternatives), on p. II.113, right-hand column, as follows:

• 11. EIR Hearing Proposal

This variant was proposed for analysis by a coalition of community groups at one of the public hearings on the Mission Bay Draft

EIR. The amount of housing contained in the variant would fall between that in Alternatives A and B. The variant would have more "affordable" housing units than Alternatives A and B, as about 50% of the units would be affordable compared to 30% under Alternatives A and B. Two-hundred live/work units would provide combined living and working space for artists or crafts workers.

No office buildings are proposed, but the variant would provide substantially more retail space than Alternatives A and B. Service/Commercial, a new use, would provide space for small professional offices, and service, administrative support, and retail activities. The variant would have about 10% more jobs than Alternative B and about 70% fewer jobs than Alternative A. The most employment would be associated with the Service/Commercial land use.

The lack of office buildings in this variant would result in more demand for back office space in other areas of the Downtown & Vicinity compared to Alternatives A and B. The large amount of retail space would rely on spending by people from outside the area as well as by Mission Bay residents and workers.

About the same amount of open space would be provided as in Alternative B. Port uses and open space (including a 20-acre wetland) east of Third Street are intended to preserve the option for more intensive port development at Mission Bay. The variant would be more responsive to maritime-related objectives applicable to Mission Bay contained in existing plans and policies than would Alternatives A and B. Unlike Alternatives A and B, the variant would preserve some port-related employment in the Project Area.

The variant would provide space for a wider variety of community and cultural facilities than would Alternatives A and B, including non-profit or privately owned facilities such as theaters, child care centers, and art galleries. With a higher percentage of affordable housing units and more family-sized units, the variant would have more students than Alternatives A and B, and thus a greater impact on schools.

The CalTrain tracks would descend below grade from 16th Street to about Seventh and Hooper Streets; from there CalTrain would continue underground below King Street. The existing CalTrain station would be replaced

by an underground station below King Street, between Third and Fourth Streets. With a location closer to the Downtown & Vicinity, CalTrain would carry more riders than in Alternatives A and B.

Overall traffic impacts during the p.m. peak period would not be significantly different from those for Alternative B. The Hooper Street connection to Seventh Street and areas west of the Project Area would help relieve traffic on 16th Street.

For more detail on Variant 11, see Volume Two, Chapter VII. Variations on Alternatives.

A figure similiar to Figure VII.8, shown on p. XV.P.10, is added to Volume One. The caption for this figure is as follows:

- **Figure II.74: Variant 11.** This variant represents an alternative land use program submitted by a coalition of community groups. It contains 8,500 housing units, 1.23 million square feet of Light Industrial / Research and Development (LI/RD) and Service/Commercial space, 500,000 square feet of retail space, a 400-room hotel, and 92.4 acres of open space, including China Basin Channel. The variant would have about 16,730 residents and about 6,720 jobs.

SANTA FE PACIFIC
REALTY CORPORATION
DEVELOPMENT AGREEMENT
APPLICATION

Comments

The Draft EIR for Mission Bay while being one of the better drafts in recent years is difficult to analyze because there is no "plan" for the development. Discussing parameters is a useful exercise, and may provide the setting for future discussion, but until there is a "plan" these comments and questions should only be regarded as preliminary. (Jim Firth, Mission Bay Clearinghouse)

I just wanted to say that I continue to be disturbed, I guess, by the fact that we are not evaluating a specific plan, and it seems to me that we at some level are spinning our wheels on evaluating the impact of something that is such an abstract proposition. The arena, the inclusion of the arena in or near this area is just one aspect of it. And we still don't know what the mix, the balance of housing and employment is going to be....

So, I am wondering whether technically and legally we could in fact certify this -- well, certify whatever we have before us on Mission Bay.

The Draft Environmental Impact Report doesn't even refer to a plan. It talks about an evolving program. And it seems to me that we could not certify an evolving program with regard to its environmental impact. It is just not something that I think -- it's my understanding of what CEQA requires would let us do. And maybe I am wrong, but it does seem to be a very inappropriate thing to do. Whether we could do it legally or not, I think as a matter of policy we wouldn't want to....

But I guess my basic concern gets down to the uncertainty of our process. My feeling is that a lot of the key decisions about Mission Bay that are going on are not happening here in this room, and that concerns me. They're being made elsewhere. And I think this Commission should be involved. (Commissioner Morales)

. . . Given the magnitude of this project, I am not sure I agree with [Commissioner Morales] that we have to delay at least an environmental analysis until there is a specific project that is developed.

I think it's very useful to go through this process now. I mean, much of the Mission Bay planning and discussion, the discussion has been outside of the public arena, and I think the EIR, I know there have been exceptions to that, and prior Commissions have had a lot of hearings on it. But I think the EIR focuses the issues very well. And I think it's important to start having some of those issues be raised within the EIR context before negotiations continue to the point where people are locked into alternatives or decisions that they might not be if some of these issues hadn't been raised. (Commissioner Engmann)

. . . What you don't have in front of you, unfortunately, is the real plan for Mission Bay. We are measuring impacts on a rather academic Alternative A, the MOU, which is now being significantly negotiated, depending on whether you talk to Santa Fe Pacific or the City in different directions, but nevertheless significantly changed.

What you have in front of you in Alternative B is an absolutely fictitious concoction of open space and housing uses that's never been proposed by any particular community group in four years of a rather intense planning process, which is to say that I believe you are going to have to wait your final certification until you have the actual land use plan in front of you and are able at that point

to consider a viable balanced use community alternative. (Rene Cazenave, San Francisco Council of Community Housing Organizations)

Response

The Draft EIR is the product of about three years of comprehensive research and analysis to evaluate impacts of a variety of alternatives and variants of those alternatives. The array of land uses and development densities analyzed reflects the range of possibilities identified as the Mission Bay planning process reached a point where preliminary planning choices could be made. This joint public planning process for Mission Bay between the City and Santa Fe Pacific Realty Corporation (SFP) is still under way. Every effort has been made to incorporate changes and refinements for Mission Bay into the EIR as they evolve through the planning process. In this way, the analyses have grown to encompass 12 variants to the three Alternatives.

SFP submitted a development agreement application for Mission Bay on May 1, 1989. The application has been the subject of negotiations between the City and project sponsor. The development agreement application was filed after publication of the Draft EIR, and is included as a variant in the Final EIR. The project described in the development agreement application is analyzed as a variant, drawing from the detailed and comprehensive information developed for the Alternatives. The discussion focuses on the differences between it and the Alternatives and other variants analyzed in the EIR. Table XV.P.4 compares the major attributes (i.e., housing, residents, employment, and open space) of Variant 12 (Development Agreement Application) with those of the EIR Alternatives. Table XV.P.5, on p. XV.P.29, shows the land area and building space proposed under the variant by land use. Table XV.P.6, on p. XV.P.30, compares types and amount of employment estimated for the variant with that estimated for the Alternatives.

The following variant, Variant 12 (Development Agreement Application), is added to Volume Two, Chapter VII. Variations on Alternatives, to follow Variant 11, added in the previous Response. In keeping with the format of this Summary of Comments and Responses for additions to and changes in the EIR, Variant 12 appears on the following pages in boldface type; because of its length, however, it is not indented as are other EIR additions and changes throughout Volume Four. (Tables XV.P.4-XV.P.6 are presented for information and comparison, and are not added to Chapter VII.)

TABLE XV.P.4: MAJOR ATTRIBUTES OF VARIANT 12 COMPARED TO THOSE OF ALTERNATIVES A, B, AND N, BUILD-OUT/2020

	<u>Alt. A</u>	<u>Alt. B</u>	<u>Alt. N</u>	<u>Variant 12</u>
Housing (Units)/a/	7,720	10,020	20	8,020
Residents (Persons)	14,400	18,670	36	16,390
Employment (Jobs)	24,980	6,230	17,250	25,100
Open Space (Acres)				
Active	13.0	22.1	0	14.0
Passive	30.3	26.2	5.2	36.8
Wetlands	0	33.8	0	0
China Basin Channel	<u>12.0</u>	<u>12.0</u>	<u>12.0</u>	<u>12.0</u>
TOTAL ACRES	55.3	94.1	17.2	62.8

/a/ Includes 20 existing houseboats that would be retained in all cases.

SOURCE: Environmental Science Associates, Inc. and Recht Haustrath & Associates

12. DEVELOPMENT AGREEMENT APPLICATION (ALTERNATIVE A)

DESCRIPTION

This variant represents the development agreement application submitted by Santa Fe Pacific Realty Corporation (SFP) on May 1, 1989, currently under negotiation between the City and project sponsor. The variant's land use plan is shown in Figure VII.9 (p. XV.P.31 in this document).

The variant is most closely related to Alternative A. It includes less total commercial space and more residential units than Alternative A. It would provide about the same number of jobs as Alternative A, with a higher percentage of jobs in office and retail activities and a lower percentage in S/LI/RD activities. The variant would provide 300 more housing units than Alternative A (about 4% more) and would accommodate about 14% more residents. About 37.5% of the housing units would be "affordable," as compared to 30% in Alternatives A and B. The variant would provide approximately 14% more open space than would Alternative A.

As in Alternative A, office uses would be concentrated north of Berry Street. The variant would include about 700,000 square feet (17%)

more office space than Alternative A. A new use, Service / Light Industrial / Research and Development / Office (S/LI/RD/O), would be located near the southwestern edge of the Project Area, near I-280. That use would be similar to S/LI/RD proposed in Alternatives A and B, but could include office uses as well (see Variant 7, pp. VII.41-VII.47, for information on allowing office uses in S/LI/RD in Alternative A). The variant would provide only about 25% of the S/LI/RD-type space contained in Alternative A. A 500-room hotel would occupy the northeastern corner of the "banana triangle" along Third Street, south of China Basin Channel.

The variant includes three times as much retail space as Alternative A (see also Variant 4, pp. VII.24-VII.32, for information on increased retail space in Alternative A). Most of the retail space in the variant would be ground floor shops, stores, and eating and drinking places as found along a typical neighborhood commercial street; second-story commercial space could locate along Third Street, south of the channel. North of the channel, there would be ground-floor retail space to serve Mission Bay office workers and South of Market workers. There would be two sites for larger-scale retail stores, located in the southern part of the Project Area near the intersection of Third and 16th Streets. One of those sites would be developed with a supermarket and other convenience stores.

TABLE XV.P.5: VARIANT 12 LAND AREA AND BUILDING SPACE BY USE,
BUILD-OUT/2020

<u>Land Use</u>	<u>Land Area (acres, unless otherwise noted)</u>	<u>Building Space (sq. ft. unless otherwise noted)</u>
Office	25.0	4,800,000
Service / Light Industrial / Research & Development / Office	7.1	900,000
Retail		
Major Retail	4.0	100,000
Neighborhood/Other Retail	<u>0</u> / <u>a/</u>	<u>650,000</u>
TOTAL RETAIL	4.0	750,000
Hotel	2.3	500 (rooms)
Port-Related / M-2	6.0	0 /b/
Housing		
Medium Density (MDR)	82.2	5,731 (units)
Medium-High Density (MHDR)	0.8	66 (units)
High Density (HDR)	11.0	1,424 (units)
Very High Density (VHDR)	<u>4.8</u>	<u>779</u> (units)
TOTAL HOUSING	98.8	8,000 (units)
Community and Cultural Facilities	3.1 /c/	125,000
Public Facilities	10.9	NK /d/
Open Space		
Active	14.0	NA
Passive	36.8	NA
China Basin Channel	<u>12.0</u>	NA
TOTAL OPEN SPACE	62.8	NA
Existing Esprit	3.3	45,000
CalTrain Station and Right-of-Way	9.5	NA
MUNI Metro Yard and Turnbacks	10.4	75,000 /e/
Pump Station	1.5	12,000
Streets and Infrastructure	79.5	NA
Houseboats	20 (berths)	20 (units)
Pleasure Craft	35 (berths)	NA

NK - Not known; NA - Not applicable.

- /a/ These would be ground-floor and (on Third Street) second-story uses in residential buildings; land area is included in housing totals.
- /b/ This area would be used primarily for backland and storage. No permanent building space is anticipated.
- /c/ Free-standing community and cultural facilities only; community and cultural facilities would also be located within some residential buildings.
- /d/ For the site designated for "Public Facilities" in the northwest corner of the Project Area, building space is unknown and dependent on the specific use(s) selected. Uses could include parking structures, community services, parks, libraries, schools, etc., or assembly and entertainment uses such as theaters or an arena. This would be in addition to the community and cultural facilities space developed elsewhere in the Project Area.
- /e/ Building space shown is for MUNI administrative support offices. Maintenance and storage areas would constitute much of this facility; that building area is unknown.

SOURCE: Environmental Science Associates, Inc.

TABLE XV.P.6: MISSION BAY EMPLOYMENT BY USE, VARIANT 12 AND ALTERNATIVES, BUILD-OUT/2020

<u>Land Use</u>	<u>Alt. A</u>	<u>Alt. B</u>	<u>Alt. N</u>	<u>Variant 12</u>
Office/a/ S/LI/RD or S/LI/RD/O/a/	14,200 8,400	3,500 900	3,500 NA	16,600 3,100
Retail	700	800	300	2,240
Hotel	370	NA	NA	370
Existing Esprit	NA	NA	NA	260
M-2 Industrial	NA	NA	11,600	NA
Port-Related/M-2	0	NA	1,150	50
Housing-Related	310	400	NA	320
Community Facilities and Open Space	160	380	50	220
Pump Station and CalTrain Station	90	90	160	90
Building Maintenance/ Security/Parking	750	160	490	580
MUNI Metro/b/	NA	NA	NA	540
Public Facilities/c/	NA	NA	NA	730
TOTAL	24,980	6,230	17,250	25,100

NA - Not applicable.

- /a/ In addition to the office development proposed under Variant 12, the variant provides for Service / Light Industrial / Research and Development / Office (S/LI/RD/O) uses, which are similar to the Service / Light Industrial / Research and Development (S/LI/RD) uses in Alternatives A and B, but could include office uses as well.
- /b/ A MUNI Metro maintenance and repair yard for Metro vehicles would have about 280 employees; there would also be 260 MUNI administrative support personnel.
- /c/ In Variant 12 only, a site in the northwest corner of the Project Area has been designated for "Public Facilities." Uses could include parking structures, community services, parks, libraries, schools, etc., or assembly and entertainment uses such as theaters or an arena. This would be in addition to community and cultural facilities developed elsewhere in the Project Area.

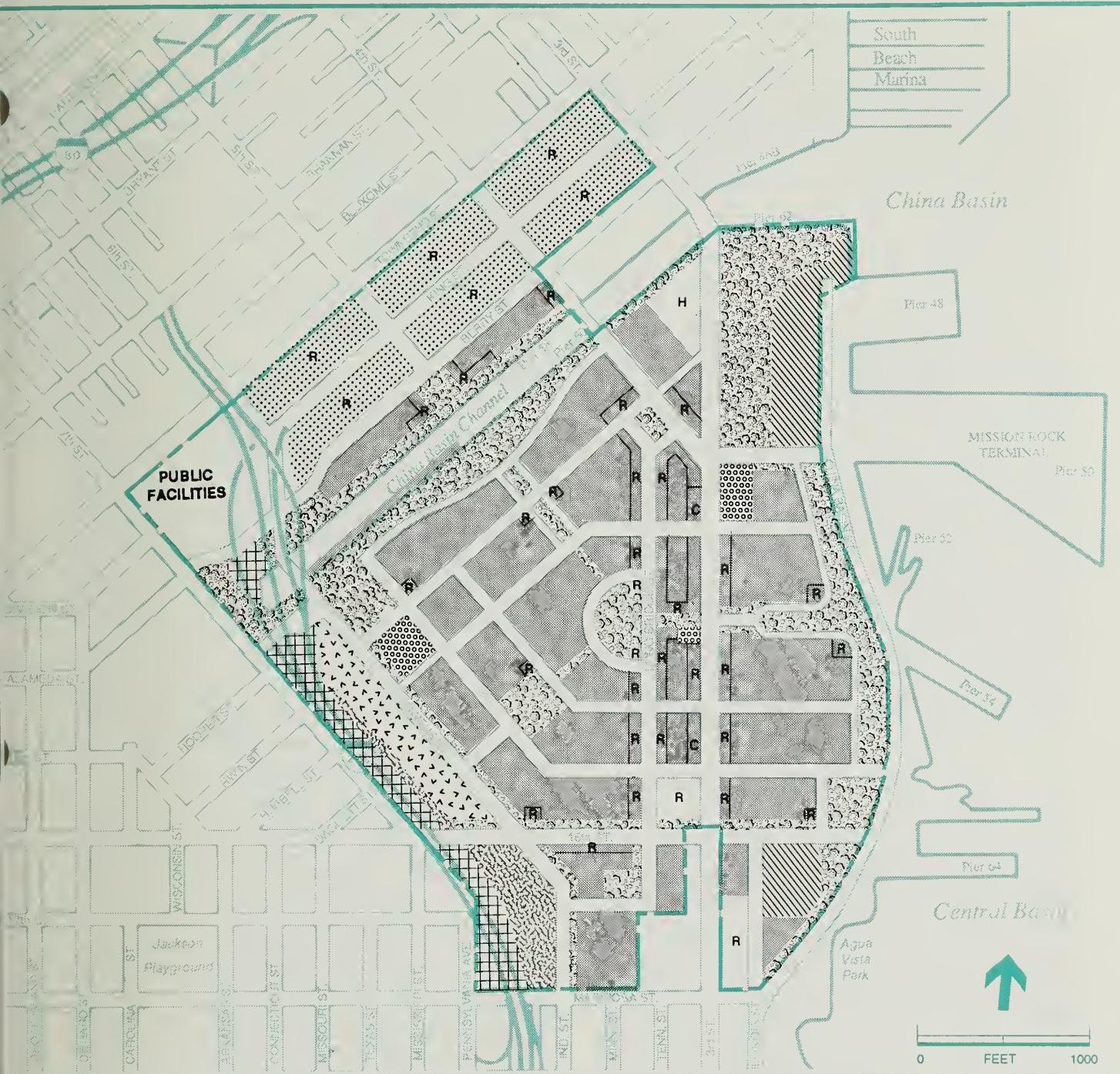
SOURCE: Environmental Science Associates, Inc. and Recht Hausrath & Associates, Inc.

The variant would include more open space than Alternative A (62.8 acres of open space compared to 55.3 acres in Alternative A), but less open space than Alternative B (with 94.1 acres). There would be three active open space areas (south of the channel and immediately east of I-280, east of Third Street and south of the extension of Pier 48, and northeast of Esprit), as well as passive open space parks and paths. The variant would not include wetlands.

The variant would preclude development of a container terminal adjacent to Mission Bay, as would Alternatives A and B. About six acres of land would be available for port-related uses

adjacent to Piers 48 and 50. That backland would facilitate the continued use of those piers as non-container terminals and for other maritime-related activity.

The northwest corner of the Project Area is designated for "Public Facilities." That site could be used for public parking structures, community services, parks, museums, libraries, schools, etc. or assembly and entertainment uses such as theaters or an arena. In this variant, the public facilities site is assumed to be occupied by a mix of uses with a generally daytime pattern of use and an average employment density about the same as that for community facilities. Were the



MISSION BAY BOUNDARY

- [R] OFFICE
- [R] SERVICE / LIGHT INDUSTRIAL / RESEARCH AND DEVELOPMENT / OFFICE (S/LI/RD/O)
- [R] RETAIL
- [R] RETAIL (Below Other Uses)

- [H] HOTEL
- [H] PORT-RELATED / M-2 / EXISTING
- [H] HOUSING
- [H] COMMUNITY FACILITIES

- [C] COMMUNITY FACILITIES (Below Residential)
- [C] OPEN SPACE (Parkland)
- [C] MUNI FACILITIES
- [C] RAIL AND EXISTING PUMP STATION

Mission Bay

FIGURE VII.9
DEVELOPMENT AGREEMENT APPLICATION
(ALTERNATIVE A)

site to be occupied by an arena, impacts would differ. An arena on that site is considered in a supplement to the Mission Bay EIR, published on March 17, 1989 (see Appendix M. Sports Facilities). Responses to Comments on that supplement are presented in XV.Q. Sports Facilities.

As in Alternative A, community services, such as police and fire facilities and a recreation center, would occupy the Fire Station 30 area. The station would be restored and expanded to provide additional space, or additional facilities would be constructed. There would be a school site in the western portion of the Project Area between Owens and Sixth Streets, south of China Basin Channel. A cultural center would be on Third Street near Crescent Park. Other community facilities would be located within commercial and residential buildings.

The 20 houseboat berths and 35 pleasure-craft berths in China Basin Channel would remain. As in the EIR Alternatives, the I-280 stub and Fourth Street off-ramp would be removed and the interchange reconfigured to provide on- and off-ramps at King Street between Fifth and Sixth Streets; the CalTrain Station would be moved from its present location at Fourth and Townsend Streets to Seventh and Channel Streets.

MUNI Metro would be extended to the Project Area, with a stop opposite the CalTrain station and a final stop within the Project Area south of 16th Street. A MUNI Metro maintenance and repair yard and support offices would occupy the area bounded by Owens Street, I-280, 16th Street, and Mariposa Street. MUNI Metro tracks would parallel the CalTrain tracks south of the CalTrain station, but would descend below grade from the CalTrain station to pass under 16th Street to the maintenance and repair facility.

Two parallel bridges would cross the channel at Owens Street. The western bridge would be used by MUNI Metro; the eastern bridge would have one traffic lane in each direction plus a sidewalk.

The variant incorporates the most recent design for The Embarcadero and King Street leading into Mission Bay from the east. Within Mission Bay the mid-block segments of King Street would contain three travel lanes during the peak periods except in the westbound direction, which would have two lanes between Fourth and Third Streets. East of Third Street, however, King would narrow to two mid-block travel lanes in each direction.

The variant is most similar to Alternative A in terms of total employment. The mix of types of

businesses and employment would differ from Alternative A, however. Most of the employment in the variant would be associated with office uses. The variant would provide about 17% more office employment and 70% less S/LI/RD-type employment than would Alternative A. Retail is a major employment category in the variant, providing three times more jobs than retail use in Alternative A. The variant would provide hotel-related employment identical to that in Alternative A, employment of a type that would not be provided in Alternative B or N.

With 8,000 housing units, there would be about 300 (4%) more units in the variant than in Alternative A. Population is estimated at about 16,400 residents, about 2,000 (14%) more than in Alternative A, due to larger units and an expected larger average household size. Compared to Alternative B, the variant would include 2,000 (20%) fewer housing units and about 2,300 (12%) fewer residents. Most of the housing units (about 72%) would fall in the medium density residential (MDR) range. About 18% would fall in the high density residential (HDR) range. About 10% of the units would be in a new housing density category, very high density residential (VHDR), representing densities over 150 dwelling units per acre. Fewer than 1% of the units would be medium-high density residential (MHDR) and none would be low density residential (LDR).

As with Alternatives A and B, both for-sale and rental housing would be developed. The housing would span a range of prices and rents. The variant would have 3,000 affordable housing units, representing a higher percentage of total housing built in Mission Bay than would be the case under Alternatives A and B (37.5% with the variant compared to 30% with Alternatives A and B). On average, the affordable units would be larger than would be the case under Alternatives A and B.^{/24/} For the variant, affordable housing is defined as housing available at prices and rents affordable to low- and moderate-income households. The range of prices and rents for new affordable housing would include lower prices and rents than would be the case under Alternatives A and B.^{/25/}

PUBLIC PLANS AND POLICIES

As in Alternatives A and B, the variant would not respond to objectives of the City's Central Waterfront Plan, the Port's Conceptual Maritime Master Plan for the Southern Waterfront, and the regional Seaport Plan calling for the maintenance or expansion of maritime uses east of Third Street in Mission Bay. However, a recent amendment to the Seaport Plan would remove the

inconsistency between the variant and the Seaport Plan, provided that certain conditions were fulfilled./26/ San Francisco's Central Waterfront Plan calls for a mixed-use residential neighborhood west of Third Street. West of Third Street, the variant generally would be consistent with the plan, as would Alternatives A and B.

LAND USE, BUSINESS ACTIVITY, AND EMPLOYMENT

Land Use Characteristics

The variant would represent a change in the land use character of the Mission Bay Project Area commensurate with the change represented by Alternatives A and B (see pp. VI.B.81-VI.B.83). The variant would be most similar to Alternative A, in terms of both the mix of uses and the geographic distribution of uses in the Project Area.

The magnitude of development in the variant could be absorbed by 2020. Full occupancy of the large amount of retail space would not occur until the surrounding residential blocks were well-established.

As described below in the analysis of retail activity, the amount of retail space in the variant is large relative to what could be supported by local spending. Consequently, personal and business services uses are likely to occupy second-floor space along Third Street.

Implications for Employment and Job Opportunities in Mission Bay

The amount of employment in the Project Area under the variant would be about 25,100 jobs, almost exactly the same as under Alternative A (see pp. VI.B.83-VI.B.88)./27/

In terms of occupations, wage/salary categories, and earnings and skill levels, the job profile for the variant would be very similar to that under Alternative A. The different mix of office, S/LI/RD/O, and retail uses would result in some differences, however. There would be a higher number and percentage of jobs in professional/technical, managerial/administrative, and clerical occupations and a higher share of jobs at the upper end of the wage/salary distribution because of the larger amount of office development in the variant. Also, since the variant would not have a large amount of S/LI/RD/O space, there would be fewer jobs in

crafts, operatives, and other similar occupations than there would be under Alternative A, although there would be more of those types of job opportunities in the Project Area with the variant compared to the situation in 1985. The variant would result in somewhat more jobs in the lower wage/salary categories, reflecting the larger amount of retail space and the relatively high proportion of part-time and entry-level jobs in retail trade.

Over the course of the development period, the number of construction jobs generated would be similar to the number in Alternative A (12,700 person-years; see pp. VI.B.88-VI.B.90).

Employment Benefits to the Labor Force

As under Alternatives A, B, and N, jobs in the Project Area under the variant would employ San Francisco residents as well as residents of other parts of the region (see pp. VI.B.91-VI.B.93). As would Alternative A, the variant would offer a broader range and larger number of job opportunities compared to those in Alternatives B and N. Furthermore, with the larger amount of Mission Bay housing in the variant compared to Alternative A, a higher share of Project Area jobs might be held by City residents.

Implications for Existing Land Uses in Mission Bay

The overview description of Project Area business transition and location options for existing Mission Bay businesses presented on pp. VI.B.93-VI.B.96 would apply for the variant as it applies for Alternatives A, B, and N. The longer-term conclusions presented on p. VI.B.99 for Alternative A generally would apply for the variant. The option available to existing businesses of remaining in the lower-density S/LI/RD development with Alternative A would not be a possibility with the variant, however, since the limited amount of S/LI/RD/O space that might be developed would provide a smaller number and narrower range of choices than would be possible with Alternative A.

East of Third Street, the port-related land use in the variant would allow continued operation of the maritime and hazardous materials cleaning service business and tank farm located in that part of the Project Area. Consequently, as opposed to the situation in Alternatives A and B, those activities, as well as other industrial or maritime-related uses in that area, would not have to relocate as a consequence of Mission Bay development.

Maritime-Related Activity / Port-Related Land Use

The overview discussion and the specific conclusions for Alternative A related to options for maritime-related activity in Mission Bay apply for this variant (see pp. VI.B.101-VI.B.102 and pp. VI.B.115-VI.B.117). Approximately six acres of land east of Third Street would be reserved for port-related uses in the variant. This is about the same amount reserved under Alternative A (although in a different location). As discussed for Alternative A, the limited land area and the location near residential and hotel development make it unlikely that active maritime uses could function efficiently in the port-related area over the long term. The area could continue to be used for materials storage and for functions ancillary to those on adjacent piers.

The reserved port-related land in this variant would include about one-half of the acreage currently used by H&H Ship Services, an existing maritime and hazardous materials cleaning service business located opposite Pier 48. The remainder of the H&H site would become part of a proposed open space bounded by Third Street and China Basin. The hazardous materials handled by H&H are primarily waste petroleum products, such as waste oil pumped from decommissioned underground storage tanks. The loss of part of its space would be likely to cause H&H to relocate, requiring it to apply for a new Treatment, Storage or Disposal (TSD) permit at a new location (see note 49a/, p. VI.B.133 [p. XV.B.11 of this document]). The EIR has analyzed two time frames: the years 2000 and 2020. It is assumed that Mission Bay development would be phased to permit continued operation of the existing company through the first of the two time frames.

Were H&H to continue to operate at its current location after development of the open space area, the potential would exist for persons using the open space to be exposed to accidental toxic chemical releases or explosions from tank cleaning operations at H&H.^{28/} Such exposure is not likely if operations continue to comply with TSD permit conditions. Under relatively calm atmospheric conditions, petroleum fumes from H&H occasionally could annoy users of the open space; such limited exposure would not be considered a health hazard. Users would also be subjected to traffic from trucks hauling empty storage tanks or waste petroleum products to the H&H facility. Hazards from this traffic would be no different than hazards on any other city street subject to commercial traffic.

The conclusions for Alternative A related to future container terminal development adjacent to the Project Area also apply to the variant. A container terminal would require more acres in Mission Bay for backland than are designated for port-related use in the variant. A land exchange, such as that addressed in the recent Seaport Plan amendment, could provide a suitable substitute location in the vicinity of Piers 70 to 80 for potential future container terminal activity, so that San Francisco's long-term container handling capacity would not be adversely affected by development under this variant. If the conditions of the Seaport Plan amendment allowing development of a new marine terminal adjacent to the existing San Francisco container terminals rather than at Mission Bay were not met, then the variant would reduce future container handling capacity in San Francisco.

Retail Activity

The variant incorporates a large amount of retail space (750,000 gross square feet), substantially larger than the amounts in Alternatives A, B, and N. Retail space in Mission Bay would be supported by the spending of Project Area residents and workers as well as by spending of people from outside the Project Area. (For more background on the retail conclusions, see pp. VI.B.104-VI.B.106 and VI.B.117-VI.B.119.) With a supermarket in the Project Area, Mission Bay residents would do more of their convenience shopping in the Project Area than assumed for analysis of Alternatives A, B, and N, none of which are likely to provide for a supermarket site. Accounting for that difference and using a methodology similar to that used to analyze Alternatives A, B, and N, it is estimated that spending by Project Area residents and workers would support about 230,000 - 260,000 square feet of retail space in the Project Area under the variant.

Of the total retail space to be developed under the variant, about 160,000 square feet would be second-floor space most likely occupied by personal and business service activities primarily serving the Mission Bay neighborhood. If that space were subtracted from the total amount of space designated for retail uses, then there would be about 590,000 square feet of Mission Bay retail space to be supported by retail spending (750,000 - 160,000 = 590,000). About 330,000 to 360,000 square feet of that 590,000 square feet of retail space would depend on the spending of people from outside the Project Area.

Mission Bay retail space under the variant would have to include attractions drawing from a larger

market area. The supermarket would offer convenient, lower-cost grocery shopping to residents of Potrero Hill and South of Market neighborhoods. With the variant, it is unlikely that a supermarket or neighborhood shopping center would be developed elsewhere in the vicinity outside Mission Bay. The other larger-scale retail development could be a discount outlet or other stores offering household goods and home improvement items, for example. Such stores draw customers from nearby neighborhoods and from throughout San Francisco. Moreover, for the large amount of Mission Bay retail space to be absorbed, it is likely that the neighborhood commercial street would develop with a high proportion of eating and drinking places and specialty shopping, attracting people to Mission Bay. Developing such a special character takes a long time. Until that happened, there would be somewhat less occupied retail space in Mission Bay than envisioned in the variant.

Another issue related to retail activity in Mission Bay is the effect on neighborhood commercial streets elsewhere in San Francisco. Under the variant, a successful neighborhood commercial street in Mission Bay would compete with neighborhood shopping streets nearby (e.g., on Potrero Hill or in the Mission District). There would be less sales growth in those areas than otherwise under Alternatives A, B, and N. As mentioned above, such competition would only develop over the long term. Moreover, the special character and flavor of the older, established districts would continue to attract shoppers, including Mission Bay residents. The large amount of new retail development incorporated in the variant would be likely to have more effect on the potential for other new retail in South Beach, Yerba Buena Gardens, Showplace Square, and other South of Market locations. The sites for larger stores in the Project Area would result in less of that type of development occurring somewhere else in the southeast part of the City.

On the other hand, Mission Bay development under the variant would contribute to sales growth in other retail districts in the City, primarily as a consequence of the spending attributable to the relatively large number of new Mission Bay residents. As in Alternatives A and B, the people living in Mission Bay would shop for such items as apparel, home furnishings, appliances, and automobiles in shopping areas in San Francisco outside Mission Bay. They also would patronize restaurants and shops along the City's many popular neighborhood streets.

Implications for Nearby Industrial and Commercial Areas

The overview discussion of the timing and types of effects of Mission Bay development on land use, business activity, and employment in Nearby Areas applies for the variant as well as for the Alternatives (see pp. VLB.106-VLB.109). The description of the effects of Alternatives A, B, and N (see pp. VLB.109-VLB.117) also is useful background for the following comparative analysis.

Generally, the variant would be very similar to Alternative A in terms of impacts on the pace of development and land use change in the South of Market, other parts of the Downtown & Vicinity, and nearby industrially zoned areas. Compared to Alternatives B and N, there would be less pressure for office development in Nearby Areas with the large amount of Mission Bay office space proposed for the variant. Because the variant does not incorporate a large amount of lower-rise, lower-cost commercial/industrial development (i.e., S/LI/RD or M-2 Industrial space), it would result in land use patterns similar to those of Alternative B in areas to the west and south of the Project Area. Showroom and related activity and some production, distribution, and warehousing businesses would look for substitute locations in the North Potrero, Inner Mission, Lower Potrero, and Central Bayfront districts since Mission Bay would not provide options for those types of business activities.

Implications for Citywide and Regional Growth and Development Patterns

The rationale for determining how the various options for Mission Bay development would affect development patterns and the amount of employment growth in San Francisco and other parts of the region is described on pp. VLB.119-VLB.121. For this aspect of the analysis, the consequences of the variant would be similar to those of Alternative A (see p. VI.B.121).

The variant, like Alternative A, would enable San Francisco to compete with the suburbs for lower-cost back-office development that otherwise would have difficulty finding suitable locations in the City. Consequently, there could be somewhat more office development overall in the City and less elsewhere in the region compared to the situation with Alternatives B and N. The larger amount of office space in the Project Area under the variant compared to

Alternative A would result in somewhat less pressure for new office development in other parts of the Downtown & Vicinity.

Because the variant does not incorporate the large amount of S/LI/RD development included in Alternative A, there would be more of that type of development and employment growth outside San Francisco and in industrially zoned areas in San Francisco to the west and south of Mission Bay.

HOUSING AND POPULATION

Implications for Households and Population in the Project Area

By build-out, Mission Bay under the variant would have 8,000 new housing units and about 16,400 residents.^{/29/} The variant would result in substantially more housing and population than Alternative N, somewhat more than Alternative A, and less than Alternative B.

As in Alternatives A and B, new residential development in Mission Bay under the variant would provide a mix of types and sizes of new units and would accommodate a mix of different households and people. Although the general description for Alternatives A and B on pp. VI.C.64-VI.C.65 would apply for the variant, there also would be some differences. In the variant, there would be units with lower price/rent levels than in Alternatives A and B. In addition, a higher percentage of the units would be affordable and the overall average unit size would be somewhat larger compared to Alternatives A and B. (See discussion of Variant 8 on pp. VII.47-VII.51 for additional background.)

The differences in housing unit size result in differences in the characteristics of households in Mission Bay. Households would be larger and there would be more workers per household, on average. There also would be proportionally more children. Although the number of housing units, households and employed residents in Mission Bay under the variant would be most similar to Alternative A, the total population in the Project Area would fall somewhere between the amount estimated for Alternative A and that estimated for the larger residential community in Alternative B.^{/29/} This is because the larger unit sizes in the affordable housing category would provide opportunities for more families with children to live in Mission Bay than would be the case with Alternative A.

Since the range of prices and rents for affordable units would include lower-priced units than

assumed for the Alternatives, the variant would provide opportunities for households with lower incomes to live in the Project Area that would not be available with the affordable price/rent structure assumed for Alternatives A and B. Consequently, average household income in Mission Bay would be lower under the variant.

Implications for Nearby Residential Areas

The implications of Mission Bay development under the variant for nearby residential neighborhoods would be similar to those of Alternatives A and B (see pp. VI.C.86-VI.C.92). As with those Alternatives, a strong direction for the types of changes attributable to Mission Bay development is difficult to predict, since the various features of the variant would have offsetting implications.

Since the variant would represent an upgrading of the urban environment in that sector of the City, it could potentially contribute to increased demand for housing in those older residential neighborhoods in the vicinity. On the other hand, the variant would add a substantial amount of housing to the City's stock, absorbing some of the demand for housing that otherwise would contribute to gentrification in nearby neighborhoods.

For residents of nearby neighborhoods, the variant would provide more in the way of public facilities and retail shopping opportunities than would Alternatives A, B, and N.

Project Area Jobs/Housing Relationship and Implications for the City's Housing Market

Relationship Between Project Area Employment Growth and Housing Development

For office development under the variant, the City's OAHPP would require either payment of an in-lieu fee of \$32.95 million for production of housing or construction of 2,200 housing units, 1,364 to be affordable to households of moderate or low income.^{/30/} The number of housing units to be built in the Project Area under the variant (8,000) would more than satisfy the OAHPP housing construction requirement. The price assumptions for the 3,000 affordable units in the Project Area under the variant imply affordability to households of moderate and low incomes, indicating that the OAHPP affordability requirement also would be met.

As with Alternatives A and B, the number of housing units to be built in the Project Area would exceed the number of units needed in San Francisco to accommodate Project Area

employment growth. The estimated number of units to accommodate additional San Francisco households with Project Area workers (about 3,620) would represent about 45% of the number of new housing units to be built in the Project Area (8,000).^{/31/} The remainder would represent housing available to accommodate other demand besides that associated with Mission Bay employment growth, thus improving the City's ability to accommodate other households looking for housing in San Francisco.

Affordable housing is defined differently for the variant than for Alternatives A and B. The range of prices and rents for new affordable housing under the variant would include lower prices and rents than would be the case under Alternatives A and B. For the variant, affordable housing includes housing available at prices and rents affordable to low- and moderate-income households. For comparison, the range of prices and rents for affordable housing in Alternatives A and B would include prices and rents affordable to middle-income households and households in the higher ranges of the moderate-income category. In those Alternatives, there would be no housing affordable to low-income households or to households in the lower ranges of the moderate-income category.

For analysis, the affordable housing under the variant is assumed to be priced to be affordable to households with incomes ranging from 50% to 120% of median household income. Additional San Francisco households with Project Area workers could require about 1,620 units of housing in this price range.^{/32/} That number of units would account for about 54% of the affordable units to be built under the variant. The remaining affordable units (about 1,380 units) would represent housing for other low- and moderate-income households in San Francisco.

The majority of additional San Francisco households with Project Area workers would be able to afford housing in the Project Area under the variant. The percentage of worker households who could afford Project Area housing would be higher under the variant than under Alternatives A and B because of the broader range of prices and rents for affordable housing under the variant.

Despite the broader range of affordability for housing under the variant, there still would be some additional demand in San Francisco for lower- and higher-priced affordable housing as a result of Project Area employment growth. There would be additional San Francisco households of Project Area workers with household incomes below those needed to pay for affordable housing

in Mission Bay (incomes below 50% of median household income). This additional demand would increase competition for units at the low end of the price/rent range for housing in San Francisco. There also would be additional households of Project Area workers with household incomes above those for which the Mission Bay affordable housing is targeted but below those needed to pay for market-rate housing in Mission Bay (assuming market-rate housing prices similar to those for Alternatives A and B). This additional demand might be met by other market-rate housing production in San Francisco. Also, to the extent lower-priced market-rate units in Mission Bay relieved demand pressure for existing housing elsewhere in the City, that would indirectly reduce the competition faced by those households with incomes between those targeted by the affordable housing and those needed to pay for the market-rate housing. However, the households in this group also could add to the demand for existing housing in San Francisco.

Comparison with the Alternatives and Implications for Citywide Housing Market Conditions

The variant would be most similar to Alternative A from a jobs/housing perspective, resulting in about the same amount of Project Area employment growth and somewhat more housing development in Mission Bay. (The jobs/housing analysis for Alternatives A, B, and N is on pp. VLC.70-VI.C.77. General discussion of the implications for citywide housing market conditions is on pp. VI.C.81-VLC.86.) Compared to Alternative A, there would be fewer market-rate units (390 fewer units) and more affordable units (690 more units). Compared to Alternatives A and B, the variant would produce affordable housing priced at lower levels, thus providing housing to a broader range of households with incomes below those needed to purchase or rent new market-rate housing. The larger average size of affordable units under the variant would be of particular benefit in San Francisco, where there are not many options for producing affordable housing large enough for families.

The large amount of housing in Mission Bay would expand the City's housing stock across a range of prices and rents. The new housing would accommodate households that otherwise would compete for existing housing. Of particular benefit would be the addition of affordable housing available over a range of prices and rents since such units are difficult to produce in San Francisco and will remain in strong demand in the future.

Compared to Alternatives A and B, the variant would be of more benefit to moderate- and low-income households in the market for affordable housing in San Francisco and to family households seeking affordable housing. The variant would be less beneficial than Alternatives A and B to middle-income households seeking affordable units priced just below the level required for producing new market-rate housing. It also would provide fewer opportunities for single-person and other smaller households seeking affordable housing than Alternatives A and B.

Alternative B is likely to be preferable to the variant from an overall housing market perspective, because it would add more to housing supply in the City and relatively less to housing demand associated with Project Area employment growth. However, in terms of affordable housing, the variant would add new units at lower prices and rents than those to be built under Alternative B. Consequently, unlike any of the Alternatives, the variant would provide housing opportunities in the City for some of those who otherwise would have to make more adjustments and sacrifices under the housing market conditions expected to prevail in San Francisco over the long term.

Implications for the Housing Market in the Rest of the Region

Mission Bay under the variant, and the citywide cumulative context of which it would be a part, would contribute to regional housing market conditions in the future. The effects of the variant would be similar to those of Alternative A (see pp. VI.C.92-VI.C.97). Generally, the development program for Mission Bay would influence the source and location of housing demand in the region but would have little effect on the total magnitude of regional housing demand and on overall regional housing market conditions.

Like Alternatives A and B, the variant would rezone what is now industrial land for a substantial amount of housing development in San Francisco. Compared to Alternative N, the rezoning would improve the City's balance of jobs and housing and would accommodate housing that otherwise would be built elsewhere in the region.

COMMUNITY SERVICES AND INFRASTRUCTURE

Fire Protection

In 2020, about 5% more fire/non-fire incidents

would be expected under this variant than under Alternative B, which has the highest number of incidents among the EIR Alternatives.^{/33/} As in Alternatives A and B, an engine company and a truck company, with accompanying personnel, would have to be added to maintain adequate levels of service in Mission Bay and the surrounding areas. As in Alternative A, renovation and expansion of closed Fire Station 30 could accommodate required firefighting equipment and personnel. As in the Alternatives, the existing high-pressure water system would need to be upgraded to serve the interior portion of the Project Area adequately.

Police Protection

In 2020, the number of police incidents would be about 4% lower than the number of incidents in Alternative A and about 8% lower than the number of incidents in Alternative B due to the different mix of land uses (i.e., less S/LI/RD-type development than in Alternative A and a smaller residential population than that in Alternative B).^{/34/} Personnel, equipment, and space requirements would be about the same as in Alternatives A and B. As in Alternatives A and B, necessary additional police personnel could not be accommodated in existing police stations.

Public Schools

The variant would have a greater impact on SFUSD enrollment than would any of the Alternatives. Approximately 2,140 SFUSD students are projected to live in the Project Area under the variant in the year 2020, about 48% more than the number of students under Alternative A and about 14% more than the number of students under Alternative B. As in Alternatives A and B, existing schools in the adjacent Nearby Areas and the district as a whole would not have sufficient space to accommodate these students. Project Area students would require about 40 elementary classrooms, 19 middle-school classrooms, and 20 high-school classrooms (representing more than two elementary schools, 61% of a middle school, and 31% of a high school). About 130 teachers/staff members would be needed.

The development agreement application identifies a 1.6-acre area northeast of Owens Street as a school site. If an elementary school were developed at that site, it typically would accommodate about 450 students, about 22% of the total number of students projected to live in the Project Area. If developed as a middle school, about 850 students could be accommodated.

Parks and Open Space

The open space network for the variant is shown in Figure VII.9 (shown in this volume on p. XV.P.31). Open space provided encompasses the following two major corridors of open space and several smaller areas:

- Bayfront Open Space: About 24 acres of open space bordering most of the eastern edge of the Project Area. This open space would provide a link between Mariposa Street and China Basin Channel and would provide views of the Bay. Areas for active recreation would be included west of the port-related backlands (south of the extension of Pier 48) and on the block northeast of Esprit.
- Mission Creek Park: About 16 acres along the north and south sides of China Basin Channel. Areas along the channel would provide passive open space; open space north of the school site would provide space for active recreation.
- Neighborhood Parks and Paths: About 11 acres of smaller neighborhood parks and paths scattered throughout the Project Area. Those open space areas would be devoted primarily to passive recreation.

The variant would provide 62.8 acres of open space, including the 12-acre China Basin Channel, about 14% more open space than provided in Alternative A (55.3 acres) and 33% less than in Alternative B (94.1 acres). The variant could pose some land use compatibility problems (e.g., noise) between port-related uses and the adjacent open space.

The variant would respond to applicable open space policies with the exception of Policy 1 of the Recreation and Open Space Element, which calls for the City to increase the per capita supply of open space to the extent it reasonably can above the current ratio of about 5.5 acres per 1,000 population. With about 50.8 acres of open space provided, excluding the 12-acre China Basin Channel, the variant would provide about 3.1 acres per 1,000 population (as compared to 3.0 acres per 1,000 population in Alternative A and 4.4 acres per 1,000 population in Alternative B). As with Alternatives A and B, the variant would not meet NRPA standards of five acres per 1,000 residents for neighborhood-serving and district-serving open space.^{/35/} Personnel requirements would fall between those of Alternatives A and B (approximately 35 to 40 persons).

Other Facilities and Services

At build-out, water demand and wastewater generation would be about 4% lower under the variant than under Alternative A. Solid waste generated under the variant would be higher than in Alternatives A and B (about 8% and 3% higher, respectively). Impacts on other community services would be similar to impacts in Alternatives A and B.

TRANSPORTATION

The variant would have about 2,000 more residents (and 440 more employed residents) than would Alternative A, resulting in about a 5% increase in p.m. peak travel demand entering the Project Area over Alternative A. There would be about 120 more workers under this variant than in Alternative A, resulting in about the same p.m. peak travel demand leaving Mission Bay.

The total p.m. peak-period travel demand generated by this variant would be about 2% higher than that forecast for the Project Area for Alternative A, but would not significantly change projections of cumulative screenline travel demand.^{/36/} The inclusion of more housing units within the Project Area than projected under Alternative A, however, would increase opportunities for downtown employees to live in the Downtown & Vicinity, thus decreasing commute trips that would cross MUNI or regional screenlines.

Off-peak travel demand within the Project Area associated with retail uses on Third and Long Bridge Streets would increase under this variant, similar to Variant 4 (see pp. VII.28-VII.29), although many of these trips would be expected to be by pedestrian and transit travel.

Parking supply rates and demand ratios used for the variant are the same as those used for Alternative A. The proposed development in this variant would provide approximately 14,800 off-street spaces. An estimated parking demand of about 17,260 spaces for this variant would result in a parking deficit for the Project Area of about 1,540 spaces.^{/37/} Mitigation measures to reduce parking impacts for Alternative A (described in VI.E Transportation, pp. VI.E.207-VLE.209 and pp. VI.E.222-VLE.223) would apply to this variant as well.

Freight loading and service vehicles connected with retail uses on Third and Fourth Streets would generate more truck traffic and demand for

off-street loading spaces on these major north - south thoroughfares, potentially resulting in more traffic disruption than would Alternative A. The Transportation Element of the Master Plan identifies both of these streets as Transit Preferential Streets. The Planning Code (Section 155) discourages access to loading from streets so designated to reduce conflicts with transit vehicles. Truck loading access south of the channel, however, could be provided from alleys parallel to Third Street to minimize this impact.

The roadway network under the variant would generally share the freeway and street characteristics of the three Alternatives. As with the Alternatives, alignment of all streets in the Project Area north of China Basin Channel would follow the existing South of Market grid. South of the channel, the street grid would follow a mixed grid (South of Market grid generally west of, and the Third Street grid east of, Long Bridge Street). Differences include expanded access between the Project Area and existing neighborhoods to the west, via a connector street between Owens and Seventh Streets near Hooper Street, and via Berry Street, which would access Seventh Street. The Hooper Street connector would not significantly affect trip distribution of vehicles between the Project Area and areas to the west because it is designated exclusively for transit access to serve the transfer point between CalTrain and MUNI systems.

In 1989, the San Francisco Departments of City Planning and Public Works, MUNI, and the San Francisco Redevelopment Agency reached agreement on a cross-section design that would provide two travel lanes in each direction along The Embarcadero and on King Street west to Third Street, and in the westbound direction of King Street west to Fourth Street. The remainder on King Street up to the I-280 ramps would provide three lanes during peak periods. This design revision, which is incorporated in analysis of this variant, has been forged partly to incorporate the on-going planning for Mission Bay, but primarily to proceed with implementation of the components of the I-280 Transfer Concept Program.

As a result of the roadway design differences described above, levels of service for intersections north of the channel would be noticeably different with the variant from those projected for Alternative A. As shown in Table VII.2, the primary differences would be that the levels of service for the variant would be improved for intersections on King Street and degraded for intersections on Berry and Townsend Streets. The primary changes would

be for intersections along Third Street, with intersections on Townsend, King and Berry in equilibrium between capacity and demand. Less drastic changes are projected for the intersections along Fourth Street. All intersections, however, would operate at an acceptable level of service (D or better).

The conflict between at grade CalTrain operations to/from its Seventh and Channel Streets terminal in Alternatives A and B and this variant would decrease the p.m. peak-hour service level at the intersection of 16th and Seventh/Mississippi Streets from LOS B to LOS D by the year 2000. This assumes that the same number of trains are in service during the p.m. peak period as in 1985. If the number of trains were increased during the peak period level of service would degrade to E. See XV.E. Transportation, pp. XV.E.25-XV.E.26, for further discussion.

As noted under the description of this variant, a MUNI Metro maintenance and repair yard would occupy the area bounded by Owens Street, I-280 (the SP mainline), 16th Street, and Mariposa Street. If that facility were constructed before the year 2000, the "wye" portion of the 16th Street lead track (see Figure VLE.6 on p. VI.E.23) providing freight-car access to the Illinois Street tracks would be removed. The Illinois Street tracks connect with the Belt Line tracks serving the waterfront north of China Basin Channel, and provide freight rail access south to the Port's North Container Terminal just north of Islais Creek. The Port requires that access to the Illinois Street tracks from 16th Street be retained; this loss of the "wye" would require an interim replacement for the (east) 16th Street lead.

Options for a permanent replacement for the 16th Street lead track are presented in the EIR on pp. VI.E.153-VLE.154, VI.E.156, VI.E.178, VI.E.182-VLE.183, and VLE.221-VLE.222. Those options are proposed as permanent mitigation for Alternatives A and B, and could be applied to this variant as well. However, it is possible to provide a temporary rail access in the interim, before the variant is fully built. To maintain freight-car service to the Illinois Street areas, new interim trackage could be constructed on the north side of 16th Street (or in the street itself), from the SP mainline to just west of Third Street, where it would join the existing lead track going northeast across Third Street to Illinois Street.

Freight trains would proceed north on the SP mainline into the proposed CalTrain terminal at 7th and Channel Streets, then back up onto the interim trackage on 16th Street. Detailed engineering would be necessary to coordinate

TABLE VII.2: DIFFERENCES IN P.M. PEAK-HOUR LEVELS OF SERVICE PROJECTED FOR SELECTED INTERSECTIONS, ALTERNATIVE A AND VARIANT 12, 2000 AND BUILD-OUT/2020

	<u>Alternative A /a/</u>		<u>Variant 12 /b/</u>	
	V/C	LOS	V/C	LOS
<u>2000</u>				
<u>Intersection</u>				
Fifth and King Streets	0.77	C	0.78	C
Fourth and King Streets	0.85	D	0.64	B
Third and King Streets	0.89	D	0.77	C
Third and Berry Streets	0.62	B	0.62	B
Third and Townsend Streets	0.57	A	0.63	B
Fourth and Townsend Streets	0.50	A	0.64	B
<u>2020</u>				
Fifth and King Streets	0.88	D	0.88	D
Fourth and King Streets	0.97	E	0.71	C
Third and King Streets	1.02	F	0.85	D
Third and Berry Streets	0.73	C	0.85	D
Third and Townsend Streets	0.68	B	0.87	D
Fourth and Townsend Streets	0.57	A	0.80	C

/a/ VI.E. Transportation, pp. VLE.167-VLE.168.

/b/ Reflects effects of diversion of traffic to Berry and Townsend Streets caused by the 1989 revisions to the roadway design for The Embarcadero and King Street.

SOURCE: Barton-Aschman Associates

construction and operation of the interim trackage with adjoining land uses. The maximum length of trains that could use this interim trackage would be about 1,000 feet (maximum of eleven 89-foot cars) because of the relocation of the CalTrain terminal from Fourth and Townsend Streets. Because trains currently running to the Port's North Container Terminal have comparable train-length limitations at the SF-SP Illinois Street Interchange Yard, and because the Port's North Container Terminal rail operations are not now hampered by that limit, this new limitation would create no change in Port rail operations.

AIR QUALITY

As with Alternatives A, B, and N, motor vehicle exhaust emissions would be the primary source of

pollutants with this variant. Vehicle miles traveled, and therefore air emissions, in the variant would be about the same as those in Alternative A./38/

As in the Alternatives, emissions of carbon monoxide, hydrocarbons, and nitrogen oxides from vehicle trips generated by the variant at build-out would exceed 1% of county-wide transportation emissions of those pollutants, and thus would be considered potentially significant by the Bay Area Air Quality Management District. Roadside carbon monoxide concentrations in the vicinity are expected to be within state and federal standards. As in the Alternatives, although the variant would be consistent with 1982 Bay Area Air Quality Plan strategies encouraging development in established areas, the land use and population projections for the variant exceed those on which the plan was based.

NOISE

The effects of the local noise environment on the variant, and the variant's effects on the local noise environment, would be similar to those of Alternative A. Noise from port-related uses on backlands adjacent to the Pier Park could detract from enjoyment of that open space, although noise would generally interfere less with the active open space proposed there than it would with passive open space. The extension of MUNI Metro to the southern end of the Project Area would introduce a new noise source to the corridor now occupied by I-280 and CalTrain. As with the Alternatives, future noise levels in the Project Area with the variant would noticeably increase over existing noise levels due to increases in traffic.

ENERGY

Energy consumed in construction of the project and in project-related transportation would be about the same as that in Alternative A; total operational energy consumption by buildings would be about 10% lower, largely because there would be less S/LI/RD-type space than in Alternative A.

ARCHITECTURAL RESOURCES AND URBAN DESIGN

As in Alternative A, the variant would retain architecturally interesting Fire Station 30 (at the intersection of Third, Fourth, and Mission Rock Streets) for community facilities. The character and scale of development under the variant would be generally similar to that under Alternative A. As with Alternatives A and B, the variant would represent a change from predominantly low-rise, industrial buildings to mixed-use neighborhoods.

The scale of development would generally increase toward the north. As in Alternative A, office buildings up to 110 feet in height would dominate the area north of China Basin Channel. Similar to those in Alternative B, residential buildings from three to four stories in height would dominate the central portion of Mission Bay. Residential and S/LI/RD/O buildings along the southwestern boundary of the Project Area, near I-280, would be up to 85 feet in height; this would be generally higher than in Alternative A and lower than in Alternative B.

Relatively large, linear open space areas would follow the channel and the eastern border of the Project Area. Those open space corridors would provide more continuous open space than

Alternatives A or B, and would establish visual boundaries separating uses north and south of the channel and defining the eastern border of the Project Area. The open space along the eastern edge of the Project Area would provide views of the Bay. Other smaller open-space areas and paths would be distributed throughout the Project Area. Landscaped jogging trails would provide connections to the west and south sides of the site.

Effects of the variant on long-range and street-level views would be similar to effects under Alternative A.

CULTURAL RESOURCES

As in Alternatives A, B, and N, development under the variant would take place in areas that could contain subsurface artifacts (see Figure VIJ.1, p. VIJ.17). Potential impacts would be generally similar to those under Alternatives A and B, although excavation required to depress the MUNI Metro tracks and construct the maintenance facility could increase the potential to encounter cultural resources (the MUNI facility would be located near Point San Quentin / Point Potrero, in an early shipbuilding area).

GEOLOGY AND SEISMICITY

Similar to Alternatives A and B, the variant involves development of housing and commercial uses in a seismically active region, and in an area of San Francisco susceptible to earthquake hazards. Casualties in the Project Area from a daytime earthquake (2:00 p.m.) could be slightly higher than in Alternative A, as the daytime population (employees, residents at home during the day, and 40% of hotel guests) would be about 4% higher due to the additional housing and higher proportion of children in the variant. Casualties from a nighttime earthquake (2:00 a.m.) would fall between those in Alternatives A and B, as the nighttime population would fall between the nighttime populations in those Alternatives.

VEGETATION AND WILDLIFE

Mission Creek Park

About 16 acres of open space would surround China Basin Channel. There would be about a five-acre strip of park-like public open space north of the channel, adjacent to residential buildings. As with Alternative B, the channel would not be dredged. The north edge would be

gabions, riprap, or similar edge treatments along the channel. The linear open space parallel to the channel would have a high level of human activity. Gulls would rest on the lawn areas. As in Alternative A, other wildlife species that might benefit from the park as an increase in habitat would be animals that are not sensitive to human activity.

There would be about 11 acres of open space along the south bank of China Basin Channel. As with Alternative A, increased human activity in the vicinity could substantially reduce or eliminate heron and egret use of the shoreline. Some birds may continue to rest on the banks and on piers and pilings and to fish and hunt along the south bank. The bank could be improved for animal use by reducing the elevation of the fill in the park area to broaden the zone in which marsh plants would grow. Pickleweed would spread readily and plants such as jaumea, salt grass, gum weed, and salt marsh lavender could be planted. Ducks and other water birds might use the widened bank as a resting area.

As with Alternative A, the open water in China Basin Channel would continue to provide feeding and resting habitat for common gulls and water birds.

Bayfront Open Space

Open space would border most of the eastern edge of the Project Area in the variant. The park east of Third Street, between the extension of Pier 48 and Mission Rock Street, and the park northeast of Esprit would be used for active recreation. The other open space along the eastern edge of the Project Area would have a high level of use. The Bayfront open space would provide habitat only for those species of wildlife that are not sensitive to human presence. Because of its proximity to the Bay, gulls would rest on the lawn areas.

Small Parks

Neighborhood areas of park-like open space and jogging paths are proposed in other portions of the Project Area. That open space would receive a high level of human activity and provide habitat only for those species of wildlife that are not sensitive to human presence.

HAZARDOUS WASTE

Surface soil, subsurface soil, and groundwater at Mission Bay could potentially be contaminated with hazardous wastes. Overall impacts would be similar to those in Alternatives A and B.

However, excavation required to depress the MUNI Metro tracks and construct the maintenance facility could increase the potential to encounter potential hazardous waste deposits. The MUNI Metro right-of-way and maintenance facility would be located in portions of Mission Bay that have been used by paint and chemical industries, oil storage and processing facilities, rail-related maintenance and repair facilities, and rail trackage.

If the Mission Bay Hazards Mitigation Program were to apply to the variant as it would to Alternatives A and B, portions of the Project Area proposed for development in the variant and appropriate buffer zones would be investigated, and any necessary clean-up would be completed before work in each development phase area began.

GROWTH INDUCEMENT

Generally, the growth inducement effects of the variant would be similar to those of Alternative A (see pp. V.I.O.1-V.I.O.9 for a description of relevant growth inducement issues and comparison of Alternatives A, B, and N). Most of the growth inducement issues (net addition to citywide employment and population, regional development patterns, and spillover effects in Nearby Areas) are discussed in the land use, business activity, and employment section and the housing and population section of this analysis of the variant. Regional growth inducement issues and multiplier effects are summarized below.

From the regional perspective, there would not be much difference among the variant and the Alternatives in total employment and population growth, but there would be some differences in the locations for growth and development in the Bay Area. In this respect the variant would be most similar to Alternative A. With employment growth concentrated in San Francisco, there would be less job growth and fewer impacts stimulated by job growth and associated population growth in other parts of the region than would be the case with Alternative B, for example.

As with the Alternatives, economic activity in Mission Bay under the variant would support and would be supported by economic activity elsewhere in the City and the region. Those economic inter-relationships are identified as multiplier effects. The magnitude of multiplier effects associated with the variant would be similar to the situation with Alternative A. Both would generate a larger amount than either Alternative B or Alternative N.

MITIGATION

Mitigation measures for Alternative A (see Mitigation sections in Chapter VI. Environmental Setting, Impact and Mitigation) would apply to this variant. However, the variant's roadway design incorporates intersection widenings on King Street at Third and Fourth that would eliminate the need for including Mitigation Measure E.29a identified in Alternative A. In addition, new Mitigation Measure E.4a, for a Transit Impact Development Fee, would apply to S/LI/RD/O in this variant. (See XV.E. Transportation, pp. XV.E.33-XV.E.34 for this measure).

A measure covering possible continued operations of H&H Ship Services adjoining proposed open space use would apply to the variant, as follows:

- Should H&H Ship Services continue to operate after development of the proposed open space area fronting China Basin: one way to mitigate would be to construct a wall approximately 16 feet in height engineered to withstand potential explosion hazards from tank cleaning operations (or develop some other effective engineering solution); and design the open space to set high-public-use areas back from the H&H property line.

The following new notes, the reference marks for which appear in Variant 12, are added at the end of Volume Two, Chapter VII. Variations on Alternatives, after new note /23/, the last of the notes for Variant 11 (see p. XV.P.25):

- /24/ Variant 8, pp. VII.47-VII.57, also contains information on variation in the percentage of affordable housing and the size of affordable units.
- /25/ For comparison, the range of prices and rents for affordable housing in Alternatives A and B would include prices and rents affordable to middle-income households, and households in the higher ranges of the moderate-income category. In those Alternatives, there would be no housing affordable to low-income households or to households in the lower ranges of the moderate-income category.
- /26/ An amendment to the MTC/BCDC Seaport Plan, approved March 16, 1989, would permit deletion of the designation of Piers 52-64 as a Near-Term marine terminal site for container development if:
 - 1) All of the former Western Pacific property at Warm Water Cove is transferred from Santa Fe Pacific Realty Corporation to the

Port (see p. V.42 regarding this land exchange), and

- 2) The Port and City develop a strategy to ensure Port-Priority Use Areas are reserved for port purposes, and non-port-owned areas needed for marine terminal uses at Piers 70 to 80 are available.

(See also pp. XV.A.1-XV.A.5 for additional information on the Seaport Plan amendment.)

- /27/ Employment in the Project Area would range from 24,100 to 25,100 jobs depending on the types of businesses located in the S/LI/RD/O space. For purposes of the EIR analysis, the high end of the range is used, assuming S/LI/RD/O space would be occupied by office activities. With S/LI/RD space only, there would be fewer employees accommodated, since those activities typically utilize more building space per worker than office activities.
- /28/ H&H Ship Services would be considered a hazardous waste property under the State Hazardous Waste Control Law. Land uses adjacent to such properties are not limited by state or federal law. For additional discussion of the State Hazardous Waste Control Law, see p. VLN.4 and pp. 16-17 of the Hazards Mitigation Program.
- /29/ The distribution of the market-rate housing according to number of bedrooms could vary, resulting in estimates of Project Area population ranging from 14,700 to 16,400 residents. The higher population estimate is assumed for the EIR analysis. Population at the lower end of the range would be very similar to that estimated for Alternative A (14,400). The higher population estimate would fall between the amounts estimated for Alternatives A (14,400) and B (18,700).
- /30/ For purposes of EIR analysis, these estimates assume that the land designated as S/LI/RD/O would be developed for office uses. If this land were developed for S/LI/RD uses rather than for office use, the OAHPP requirement for office development under the variant would be lower, requiring payment of an in-lieu fee of \$27.74 million or construction of 1,853 housing units, 1,149 to be affordable to households of moderate or low income.
- /31/ The estimate of additional housing units to accommodate San Francisco households with Project Area workers was developed

using the approach followed in analyzing the jobs/housing relationship for Alternatives A, B, and N. The approach is described on pp. VI.C.68-VI.C.70, and background is provided in Volume Three, Appendix C, pp. XIV.C.29-XIV.C.37. Values in the calculations that reflect the cumulative context were estimated for the variant based on the work done for Alternatives A, B, and N. Background on the calculations is provided in working papers available for review at the Department of City Planning, 450 McAllister Street.

- /32/ The number of affordable housing units for the additional San Francisco households with Project Area workers was estimated by comparing the estimated distribution of San Francisco households with Project Area workers among household income categories to the price range for affordable housing in Mission Bay under the variant.
- /33/ As in Alternatives A and B, as the ratio of residential uses to other uses in the Project Area increases, the proportion of good intent and rescue calls would increase while the proportion of building fires and hazard calls would decrease. Because of the higher proportion of affordable units in the variant, more medical/service calls would be expected.
- /34/ Compared to Alternative A, there would be more residential burglary incidents and fewer commercial burglaries and thefts. Compared to Alternative B, there would be fewer domestic violence and residential burglary incidents but more commercial burglaries and thefts.
- /35/ Use of a standard to estimate open space demand has several shortcomings. Standards address quantity, but not type and quality of open space or how well it is designed, meets community needs, or reflects current leisure needs and preferences. Standards do not account for socioeconomic changes in a community over time and may or may not be realistic in light of a community's ability to implement them.
- /36/ VI.E. Transportation contains an extensive discussion of travel demand forecasting for the Project Area, Downtown & Vicinity, and the rest of the region, and the effects of this projected travel demand on operating conditions at screenlines (highways and transit), local intersections, and on MUNI routes serving the Project Area. For highways at the regional screenlines, at build-out (see
- Table VI.E.14, pp. VI.E.106-VI.E.107, and Table VI.E.15, pp. VI.E.108-VI.E.109), small numerical differences in outbound traffic during the p.m. peak period and hour among Alternatives A, B, and N do not produce significantly different impacts in terms of the duration of congestion. For transit systems (see Table VI.E.16, pp. VI.E.115-VI.E.116; Table VI.E.17, pp. VI.E.117-VI.E.118; Table VI.E.18, pp. VI.E.119-VI.E.120; and Table VI.E.19, pp. VI.E.121-VI.E.122), cumulative transit ridership at screenlines is forecast not to be different among Alternatives A, B, and N, except for the South Bay screenline. A significantly higher CalTrain ridership under Alternative N than under Alternatives A or B could be caused by the relocation of the San Francisco CalTrain terminus further from the downtown employment center with the latter Alternatives. As shown in Table VI.E.20 (p. VI.E.130), however, there would be no significant differences in cumulative outbound transit levels of service during the p.m. peak period and hour among the Alternatives. For local intersections (pp. VI.E.166-VI.E.175), very few differences exist among Alternatives A, B, and N for 2020 Levels of Service (Table VI.E.26, pp. VI.E.167-VI.E.168), and these few differences are too small to be considered significant. For MUNI routes serving the Project Area, 2020 Levels of Service (Table VI.E.27, p. VI.E.177) with Alternative B would be worse than with Alternatives A or N, as the larger number of residents in Alternative B would generate more southbound (peak direction) p.m. peak-period trips than would the other Alternatives. The numerical differences in travel demand among Alternatives A, B, and N are greater than those between Alternative A and this variant.
- /37/ On-street parking space availability assumes that spaces on residential streets, beyond 1,500 feet from non-residential uses, on Project Area boundary streets, or on streets with traffic flow parking restrictions such as King and Third Streets, are not available for commercial parking demand.
- /38/ Vehicle trips generated by the variant would be about 1% higher than vehicle trips generated under Alternative A; however, some commute trips could be shorter than those under Alternative A, due to an increase in housing and thus more opportunities for downtown employees to live in the Downtown & Vicinity as compared to those under Alternative A.

The following summary of Variant 12 (Development Agreement Application) is added to Volume One, Chapter II. Highlights & Conclusions (Variations on Alternatives), to follow the summary of Variant 11 given on pp. XV.P.7-XV.P.24.

- 12. Development Agreement Application

This variant represents the development agreement application submitted by Santa Fe Pacific Realty Corporation on May 1, 1989, which has been the subject of negotiations between the City and project sponsor. The variant is most closely related to Alternative A. It includes less commercial space and more housing than Alternative A. The variant would have about the same number of jobs as Alternative A, with a higher proportion in office and retail activities and a lower proportion in S/LI/RD activities.

About 37.5% of the housing units would be "affordable," as compared to 30% in Alternatives A and B. The range of prices and rents for affordable housing would include lower prices and rents than would be the case in Alternatives A and B. As a result, a higher percentage of households with Project Area workers could afford Project Area housing under the variant compared to Alternatives A and B. Generally, housing market conditions in San Francisco would be better with the variant than with Alternative A.

The variant would include about 17% more office space than Alternative A, and about one-quarter of the S/LI/RD-type space. The variant's S/LI/RD-type space, called S/LI/RD/O, could include office uses as well as the S/LI/RD uses included in Alternatives A and B. There would be three times as much retail space as in Alternative A, including two sites for larger-scale retail stores, which would rely on spending by people from outside the area as well as by Mission Bay residents and workers. Like Alternative A, the variant includes a 500-room hotel.

The variant would include more open space than Alternative A, but less than Alternative B. Wetlands are not included. The northwest corner of the Project Area is designated for "Public Facilities." That area could be developed for uses such as a public arena, theaters, public parking structures, community services, parks, museums, libraries, or schools.

With a higher proportion of affordable housing units and a larger average unit size, the variant would have more students than

Alternatives A and B, and thus a greater impact on schools. A 1.6-acre site northeast of Owens Street is designated for a school.

The CalTrain station would be moved to Seventh and Channel Streets on the assumption that the underground extension of CalTrain service to downtown (for which a right-of-way is reserved) would not be achieved on a timely basis. MUNI Metro would be extended into the Project Area to a new maintenance and repair facility in the southwestern portion of the Project Area.

Overall traffic impacts during the p.m. peak period would not be significantly different from those for Alternative A. The extension of Berry Street to Seventh Street would help relieve congestion that would occur along King Street in Alternatives A and B.

For more detail on Variant 12, see Volume Two, Chapter VII. Variations on Alternatives.

A figure similar to Figure VII.9, shown on p. XV.P.31, is added to Volume One. The caption for this figure is as follows:

- Figure II.75: Variant 12. This variant represents the development agreement application submitted by Santa Fe Pacific Realty Corporation on May 1, 1989, which has been the subject of negotiations between the City and project sponsor. It contains 8,000 housing units, 5.7 million square feet of office and Service / Light Industrial / Research & Development / Office (S/LI/RD/O) space, 750,000 square feet of retail space, a 500-room hotel, and 62.8 acres of open space, including China Basin Channel. The variant would have about 16,390 residents and about 25,100 jobs.

STAFF-INITIATED TEXT CHANGES FOR VARIATIONS ON ALTERNATIVES

The following staff-initiated revisions are made to the Variations on Alternatives subchapters of the Mission Bay Draft EIR.

Volume One - Chapter I. Executive Summary

On p. I.5, left-hand column, the first sentence under "Variations on Alternatives" is revised to state:

- In addition to the three Alternatives (A, B, and N), twelve variants of the Alternatives are evaluated in the EIR.

The following new paragraph is added to p. I.5, right-hand column, to follow the first full paragraph:

- Two variants are alternative land use programs. They are based on: 11) A proposal submitted by a coalition of community groups at one of the public hearings on the Mission Bay EIR; and 12) An application for a development agreement submitted by the project sponsor in May, 1989.

Volume One - Chapter II. Highlights & Conclusions (Variations on Alternatives)

On p. II.104, the first sentence, first paragraph under "Variations on Alternatives" is revised as follows to reflect the new number of variants:

- In addition to the three Alternatives (A, B, and N), twelve variants of the Alternatives are evaluated in the EIR.

The following is added to the end of the listing on p. II.104, beginning with a new paragraph:

- Two variants are alternative land use programs. They are based on:
 - 11) A proposal submitted by a coalition of community groups at one of the public hearings on the Mission Bay EIR; and
 - 12) An application for a development agreement submitted by the project sponsor in May, 1989.

On p. II.105, left-hand column, the last sentence of the last paragraph is revised to state:

- Reservation of land east of Third Street for port-related use would provide the necessary backland for potential future development of a container terminal at Mission Bay.

Two changes are made to p. II.107. The last sentence of the last paragraph in the left-hand column, which continues in the top of the right-hand column, is revised to state:

- The personal and business service space would be used for health clubs, hair salons, photocopy and printing shops, small professional and medical offices, and similar services.

The last sentence of the last paragraph in the right-hand column is revised to state:

- Two additional measures would require noise analyses and incorporation of noise reduction

measures into building designs for a school on Owens Street and retail uses along Third Street.

On p. II.112, a revision is made to the first sentence, second paragraph under "9. CalTrain Station Location in Alternatives A and B," in the left-hand column. As revised, this sentence states:

- In this variant, CalTrain ridership could be up to 22% higher than in Alternatives A and B (estimates of the difference vary, with some as low as 5% higher).

Volume Two - Chapter VII. Variations on Alternatives

Under "Energy," on p. VII.17, the third sentence is revised to state:

- Construction energy consumption would decrease by about 8% from that estimated for Alternative B (see p. VI.H.8).

Under "Geology and Seismicity," on p. VII.17, the first sentence is revised as follows to make it consistent with the data shown in Table VI.K.1:

- Not developing wetlands at China Basin and south of Pier 54 would reduce by about 220,000 cubic yards the amount of material that otherwise would need to be dry dredged and used or disposed of for Alternative B (see Table VI.K.1, p. VI.K.20).

Under "Housing and Population," on p. VII.34, the second sentence is revised, as follows:

- The additional in-lieu fee required for the additional 600,000 square feet of office space would be about \$3.5 million.

Under "Alternative A" on p. VII.43, the second sentence is revised to state:

- For Alternative A, assuming (for example) that one-half of S/LI/RD development were occupied by office activities and would be subject to the OAHPP, the additional in-lieu fee required would be about \$10.4 million.

Under "Alternative B," also on p. VII.43, the first sentence is revised to state:

- For Alternative B, assuming (for example) that one-half of S/LI/RD development were occupied by office activities, the OAHPP requirement would be satisfied by either an additional \$1.2 million in-lieu fee, or construction of 81 housing units, 50 to be affordable to moderate- or low-income households.

The second sentence of the first full paragraph on p. VII.56 is revised to state:

- Because that Alternative shows ~~employment~~ of about 17,000, only 6,000 of whom might be accommodated in the slightly more "safe" area of Townsend and Third, even this Alternative could be said to expose large numbers of people to seismic hazard.

On p. VII.51, the note reference mark at the end of the first sentence under "9. CalTrain Station Location" is changed, as follows:

- The transportation impacts of the Mission Bay Alternatives presented in V.I.E. Transportation and the related mitigation measures were identified on the basis of the CalTrain terminal locations assumed for the EIR Alternatives as described in Chapter V. The EIR Alternatives and Approval Process, p. V.7./5/

On p. VII.53, the source for Table VII.7 is changed to:

- **Barton-Aschman Associates, Inc.**

Q. SPORTS FACILITIES

This section contains Responses to Comments for the Mission Bay Draft Supplement to the Draft EIR (SEIR).

The Mission Bay SEIR and a Draft Supplement to the South of Market Draft EIR /1/ were both published on March 17, 1989. The two SEIRs are consistent in content, addressing additional cumulative impacts of a ballpark and arena in the vicinity of the Mission Bay and South of Market Plan areas. As a result, the public hearing and comment periods for the two SEIRs were combined.

The Comments received relating to the SEIR analyses therefore refer to both the Mission Bay and South of Market EIRs. Thus, the Responses also may refer to portions of the South of Market EIR as well as the Mission Bay EIR to address issues raised in the Comments adequately.

The Mission Bay Supplement to the EIR, revised as noted in the Responses in this chapter, is incorporated into Volume Three of the Final EIR as Appendix M. Sports Facilities. The figure and table numbers of the Draft Supplement are revised to incorporate Appendix M designations (e.g., Table 1 is changed to XIV.M.1), and the note cited at the end of the Draft Supplement's Transportation section is moved to the end of the chapter and is renumbered to appear in sequential order with new notes added in the Responses. General references to the Mission Bay EIR are revised, as appropriate, to cite specific chapter and page numbers in the EIR.

COMMENTS ON THE MISSION BAY DRAFT EIR

Comments

The EIR does not address the effect of the proposed Baseball Stadium and/or Sports Arena on the project or the Southern portion of the City. While the Boosters see the absence of the proposed sports complex in the EIR, as a welcome sign. Especially given the Boosters opposition to any large crowd gathering facilities such as stadiums or sports arenas in the Mission Bay area. However this absence of the arena and stadium from the EIR ignores the Mayor's efforts to have such a facility built within or adjacent to Mission Bay. (Arden Smith, Potrero Boosters and Merchants Association)

. . . Since the paper is so full of the arena and the stadium, since the Mayor's appointed a committee to look at it, and it directly impacts certainly on one site in the Mission Bay and borders the other site, I don't know how you can ignore it in an EIR. You might come back with the response which I have heard at times before: Well, it isn't a finished idea. Don't know if it's going to happen and so until we know if it will happen.

But I think possibly that is not good enough, at least for me. The traffic impacts are already tough in this document. And whether they change because of facilities like that, probably ought to be looked at. (Commissioner Bierman)

. . . I don't see how we can consider an EIR where there is not a stadium and/or arena as part of it, since it really might be a part of it. I think we are probably better off to start working on that now rather than waiting five or six months from now. Because one or the other is going to be delayed, and perhaps -- I mean, we know the discussions are real. They're as real as any of the other discussions that are going on in Mission Bay. (Commissioner Engmann)

Finally, the EIR must consider the impacts of the Mayor's stadium and arena proposal on Mission Bay development options. This proposal, while not the subject of a currently pending application, is clearly on its way, and its impact on Mission Bay development needs to be considered. (Zach Cowan, Mission Creek Conservancy, Sierra Club, San Francisco Tomorrow)

Within the boundary of Mission Bay there is a proposal that has not been submitted in writing, but nonetheless is being discussed, to construct an arena complex at the corner of Seventh and Townsend. There is, in addition to that, a proposal to construct -- although again it is not in writing -- but discussions about constructing a baseball stadium at the corner of Second and King and Berry and Third.

I would request that the Commissioners, if you are aware of that, please consider requiring that those two proposals be included in the analysis of the Mission Bay EIR as they will have a substantial impact on the rest of the development proposal. . . .

The issue that I have been asked to remind you all of is one which is something that doesn't seem to want to go away very easily, the stadium and

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arena. We have spoken about it before. . . You know our feelings. And I expect that you were going to be taking those into consideration as you make decisions regarding the Mission Bay Plan, when those plans ever do develop.

What I would like to find out is if you are giving any direction to the Planning Department regarding scoping of what issues will be studied or recommended for study, if you do that in the Mission Bay EIR regarding the stadium and arena, as was mentioned several weeks ago. That is something that, if it's going to be done, we would like to be able to participate in that scoping session to make sure that the issues that we have raised are going to be adequately addressed.

Nowhere in the Mission Bay EIR is the prospect of a stadium or an arena discussed. If either use is being considered now or will be in the future it must be included in the Mission Bay EIR. If these uses are not included and become "real" proposals then this entire EIR is useless. (Jim Firth, Potrero League of Active Neighbors)

Additionally we feel the development of large crowd gathering facilities such as a ballpark and sports arena as proposed by the Mayor to be inconsistent with the development of Mission Bay. It will be severely disruptive of the [quality] of life, traffic flows and air quality in the Mission Bay, Potrero Hill and Showplace Square Area. It is our position any large crowd gathering facility is inconsistent with a residential neighborhood and your own EIR points out traffic is already severely congested at peak hours in the areas that the sports facilities are proposed. (John B. DeCastro, Potrero Boosters and Merchants Association)

. . . [I]n nearly 1400 pages, there is no coverage of something that most of us believe to be very real and alive, and that is a proposal for an arena or a stadium or whatever you want to call a large crowd-drawing facility at the corner of Seventh and Townsend Streets.

Last fall, just about a year ago, most of us who are in this room met with Planning Department staff in an informal meeting to talk about the scope of the EIR, and we did discuss a number of issues. But I think most of us emphasized a number of times how important it was that the EIR cover in some form -- whether it would be an alternative or a variant or whatever -- a stadium at Seventh and Townsend Street. At that point I know Proposition W had qualified for the ballot,

and it seemed very, very alive and almost unbeatable.

I think that we got two messages from Planning Department staff at that point. One was, well, let's wait till Proposition W is over and it either passes or it fails. And the other message was, well, if it's still with us, then we will do a separate EIR.

Now, I am not one to try and read the mind of Planning Department staff, but I think that they kind of hoped that the stadium thing would just go away and we wouldn't have to deal with it.

But meanwhile, then and now, we have an 11-acre parcel of land at Seventh and Townsend Street that is sort of a no-man's-land. There are proposals for it in development agreement negotiations, but it is not really dealt with at all in the Environmental Impact Report.

You do not have that, but you have backup uses. If that, for example, were to be used for light industry, it could free other areas for housing or reduce housing density.

We said a year ago and we say now that having an EIR without any mention of this very major use almost invalidates the whole process.

I don't think it's just an idle concern. For example, the EIR figures on parking, and I am not saying whether I accept them or don't accept them, but they right there say that by 2020 in Plan A, the MOU, there will be a 1,000 parking slot deficit. In Plan B, which would be more housing, there would be a 300 slot deficit. And this is without a stadium.

A couple of other issues. We are talking now about an arena or something within the plan at Seventh and Townsend. The mayor, in addition, is talking about the possibility of a small baseball stadium, Second and King, Third and King.

Last year, people from the Giants, from Mayor Feinstein's office admitted that the noise from a Seventh and Townsend baseball stadium would be like a giant megaphone to the Mission Bay housing one long block away.

What would the noise from a Third and King baseball stadium do to the possibility of housing at the north end of the Third Street corridor? How can you really look at whether that is an appropriate place for housing unless you know what those effects would be? What about traffic? What about those sorts of things?

During last fall's campaign around Prop W, the Giants admitted that they would have no weekday daytime games if a Seventh and Townsend stadium were to pass. And they didn't make that real public, but they admitted it.

There were two reasons for it. One was the commute. Because even with plans to extend the MUNI Metro, they realized that if they were commuting to [or] from a stadium, an arena, any large facility there, it would make the gridlock even worse.

But the other reason I think is more telling. They expected that the major amount of parking for a stadium, an arena, whatever, would come from the vacated parking slots from Mission Bay offices.

Now, I think that presents a couple little things that ought to be studied. That presumes Plan A. What if you look at something closer to Plan B, something within all those little brackets? What if there aren't going to be as many parking slots for offices because there aren't going to be as many offices? Where the heck are the people from an arena or stadium going to park at night? And also, the Mayor's Office has made it pretty clear that a multipurpose arena would serve as an extension of activity from Moscone Center.

An awful lot of that takes place during the day. Now, where are they going to park if the people in the offices are parking in the office buildings?

I know that the mayor has said right now that he is undertaking study of parking and traffic and other factors about an arena. I know that Barbara [Sahm] and you all said that if something else comes up, well, then there would be a Supplemental Environmental Impact Report.

On a lot of things, a supplemental report or the mayor's study might be listened to with some objectivity. But let me say that last fall when Prop W was on the ballot, there wasn't any objectivity. That was one of the most emotional issues I have ever seen in the City of San Francisco. And I can say that as the person who wrote all of the public "No on W" material....

I don't think that a separate Environmental Impact Report or Mayor's study on as potentially emotional an issue as a sports facility, whether it be for the Giants or a multipurpose arena, can really be studied with the thoroughness and objectivity that a major land use decision like this deserves.

For that reason, I would like to ask that this Commission not certify the EIR on Mission Bay until some sort of EIR, environmental impact study on whatever you want to call it, a multipurpose major crowd-drawing facility at Seventh and Townsend Street is studied and included in this document. (Judy Baston, Potrero Hill Neighborhood House)

Response

The Mission Bay and South of Market Draft EIRs were published in August 1988 before planning concepts for a stadium or arena had been identified. Consequently, the EIRs did not consider potential cumulative impacts related to a downtown stadium or arena located near the Project Area. However, as noted in the Comments, subsequent actions furthered the potential for such development: a request for proposals was issued in October 1988; proposals were submitted by three firms in January 1989; and on February 1, 1989, a proposal by Spectacor Management Group was chosen by the City for further development and negotiation. As a result of those actions, evaluation of the cumulative impacts of a stadium and arena was considered appropriate for inclusion in the Mission Bay and South of Market EIRs. In response, a Draft Supplement (Draft SEIR) to each of those EIRs was issued for public comment on March 17, 1989. A public hearing on the Supplements was held before the City Planning Commission on April 20, 1989. The focus of the analysis in each SEIR is on implications of the stadium and arena as they would affect Mission Bay and South of Market areas and add to cumulative impacts addressed in those EIRs. Specific design or program details were not considered. The SEIR does not constitute environmental review of the stadium and arena.

The SEIRs to the Mission Bay and South of Market EIRs discuss the cumulative implications of an indoor arena complex at Seventh and Townsend Streets on land owned by Santa Fe Pacific Realty Corporation (SFP) that is part of the Mission Bay Project Area; and a stadium on the block bounded by Second, Third and King Streets, and San Francisco Bay northeast of the Mission Bay Project Area (owned jointly by the Port of San Francisco, City and County of San Francisco, and Caltrans).

Transportation, parking and circulation are major issues addressed on pp. 7-27 of the Mission Bay SEIR /2/. Other issues evaluated are: land use, noise, air quality, urban design, and geology and

seismicity. These issues are those that would most influence cumulative impacts of and on Mission Bay development.

The Comments received on the Draft SEIRs follow this Response.

On July 26, 1989, the Mayor and Robert Lurie released an announcement that San Francisco would continue to be the home city for the Giants ballclub. That decision was influenced by a financial agreement between the City and Spectacor Management Corporation to provide a ballpark at the site analyzed in the SEIR. However, the concept of a ballpark at that site was subsequently defeated by San Francisco voters in a ballot measure in November 1989.

COMMENTS ON THE DRAFT SUPPLEMENT (SEIR)

Project Description

Comment

It is interesting to note that three months after the developer was selected, the Draft EIR reads "At this time, no final design or operation program for the stadium/arena has been prescribed. Such details will be developed as negotiations continue in the next several months. Those negotiations would, among other issues, address a financial program, which would determine the feasibility of pursuing this project". . . .

Again, it is interesting that the selected developer won considering that "few details about the stadium/arena design, operation or programming are known, as the proposal is still in its early stages of negotiation." (Dehnert C. Queen, Small Business Bowl)

Response

Negotiations between the City and Spectacor Management Group regarding the ballpark/arena package were focused initially on exploring whether a feasible financial program could be developed. As a result, work on preliminary design and engineering plans for the two sites was deferred until after definition of a viable economic program, and approval of the ballpark concept by San Francisco voters (which did not occur). In any case, detailed environmental impact analysis tailored to different physical configuration alternatives for the ballpark/arena

would have been subject to separate environmental review, as this SEIR would not constitute project-specific environmental evaluation for the ballpark/arena.

Comment

The 1984 and 1986 agreements between Mayor Feinstein and the developer of Mission Bay appear to be sufficiently sacrosanct to require "consolidation with other S/LI/RD land uses in the Project Area to allow the proposed arena to occupy that corner." Allowing increased density within the project seems unreasonable considering that the federal government approved Mayor Feinstein's request to cancel the \$85 million I-280 extension to the Bay Bridge (permanently) in order to provide infrastructure improvements for the Mission Bay Developer. . . . (Dehnert C. Queen, Small Business Bowl)

Response

The assumption of consolidating S/LI/RD uses elsewhere in the Mission Bay Project Area to free up the Seventh and Townsend site for the proposed arena was made to ensure that the SEIR analysis continued to present a conservative (high-end) impact analysis. The inclusion of this assumption does not preclude decision-makers from modifying the Mission Bay land use program, whether or not an arena is approved at a later time.

Comment

Page 4, "The Arena." The statement is made that the arena site is owned by Santa Fe Pacific Realty Corporation. Mention should be made that the Southern Pacific Transportation Company owns a transportation easement over the site and that that easement is currently used for rail passenger service. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

The following new sentence is added after the first sentence in the paragraph after "The Arena" on p. 4 of the SEIR [3], to denote the site's current use as part of the CalTrain right-of-way:

- Currently, the Southern Pacific Transportation Company owns an easement on the property that is used to provide CalTrain service.

Comment

Page 4, paragraph 1: The proposed stadium site appears to include Second Street between King Street and the Bay. This portion of Second Street is located within the South Beach Redevelopment Area and slated for open space and parking for it. The text should mention that a Redevelopment Plan change with approval by the Board of Supervisors would be required for this boundary change. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

The first sentence of the last paragraph on p. 2 of the SEIR /4/ is revised and a new sentence is added, as follows:

- In addition to review and approval required by the City, the stadium project would depend on purchase of property from Caltrans and an amendment to the Rincon Point - South Beach Redevelopment Plan to allow Second Street south of King Street to be included as part of the stadium site. The redevelopment plan amendment would require approval by the Redevelopment Commission and the Board of Supervisors.

Comment

Page 7, paragraph 5: The text mentions a 3,000 car parking garage "adjacent to the stadium". Where would this large structure be located? Would it be on the proposed stadium site or outside of it? The proposed stadium site itself will shrink in size when King Street is widened on its southern side to handle the Muni Metro line and the rerouting of traffic from The Embarcadero as called for in The Embarcadero Roadway improvement plans. Will the proposed project take over land slated as open space in the Redevelopment Plan? (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

Since publication of the SEIR, further work was

conducted to identify a parking program for the sports facilities. The parking supply later contemplated for the ballpark and arena sites was different from that described in the SEIR.

On the basis of more detailed evaluation of site constraints and cost, an estimated 1,500 spaces could be accommodated on the ballpark site, rather than the 3,000 spaces stated in the SEIR. It was assumed these spaces would be contained within a garage structure.

On the arena site, an estimated 700 spaces would initially be made available on a surface lot. Taking into account the parking supply estimated to be available in the immediate vicinity (much on undeveloped lots in Mission Bay and in Showplace Square), it is believed the construction of a multi-level parking structure on the arena site providing 2,500 spaces could be deferred until after 2005. At that point, it is assumed that increased parking demand associated with new development would absorb parking supply such that additional spaces for arena use would be necessary.

The last sentence of the first paragraph under "The Stadium" on p. 2 of the SEIR /5/ is revised to state:

- In addition, it is assumed there would be on-site parking with a capacity of about 1,500 vehicles.

The last sentence of the paragraph after "The Arena" on p. 4 of the SEIR /6/ is revised and three new sentences are added, as follows:

- It has been assumed the site would also provide on-site parking. Initially, 700 spaces would be provided on a surface lot contained on the site. It is assumed that at some time beyond 2000 (approximately 2005), additional parking would be needed. Approximately 2,500 spaces could be provided in a garage structure.

As a result of changes in the on-site parking resources for the sports facilities (and other parking inventory adjustments), the SEIR parking analysis also has been amended. See pp. XV.Q.47-XV.Q.49 for the revised discussion.

Event Scenario Assumptions

Comments

And what bothered me, Mr. Lurie says he will leave unless he gets a ballpark. I think we all

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understand that one of the reasons he wants a new ballpark is because the weather is bad. Presumably, this will improve the weather. If it improves the weather, presumably it will increase his occupancy of his stadium, the attendance. I don't see in this document where the increases in attendance come. People here I know think that because Candlestick isn't full, there won't be any increase in this one. But Candlestick isn't full because baseball usually doesn't get the same kind of crowds that Candlestick could take care of. But I think you have no -- unless I missed it, which I well could have. I think you aren't dealing exactly with increase....

The next page, Pages 9 and 10 still talk about sellout. If it won't sell out, and I think it will sell out more times than you've factored in. That's all. Well, I think he hopes it will sell out. That's why he wants to build it.... (Commissioner Bierman)

While I can appreciate the concerns of the report with relation to adverse traffic conditions, it seems that the report focuses on a "worst-case" scenario. Since there were only 12 afternoon games scheduled in 1988 none of which were sellout crowds this worst case scenario does not seem to apply to the reality of the situation.

Additionally, sellout crowds at the arena or ballpark would occur in the evening or on weekends when traffic conditions would be quite different. It would also be assumed that the management of these facilities would tightly control scheduling of events so that conflicts would not occur. (Assemblyman John Burton, California State Assembly)

I feel there are several areas of discussion which have been underemphasized by both those in support of and those opposed to the stadium--issues which are extremely relevant to the project's actual impact on the City.

First, the imagined worst-case traffic scenario caused by sellout games at the proposed stadium is a phantom argument, and rather insulting to the legitimate concerns of those opposed to the plan. Weekday day game sellouts have been rare occurrences since the Giants moved to San Francisco in the late fifties and should certainly rate very low when considering the impact on commute time traffic congestion. Even if you count an Opening Day weekday sellout (and this year's Opening Day was a night game), it must be obvious that a Candlestick sellout of 58,000 people creates more serious traffic problems than a China Basin sellout of 45,000 people. (Richard Dyer)

I would remind all that sellouts at Candlestick may occur only a few times over the course of a season, save those years when the Giants are able to generate all that extra income for the City by getting into the playoffs and world series. (Robert M. McGee)

Page 10, paragraph 2: Attendance figures should be conservative and high as stated in the Draft Supplement. If the Giants in their new stadium cannot attract more fans than they currently do at Candlestick, why bother building a new stadium which will be only partially occupied? (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

In spite of the fact that I think the Environmental Impact Report is very well written, there were two things that I wanted to point out to you for consideration as you decide whether to finalize it. The first is in your worst case scenario. You do focus, if not exclusively, predominantly upon weekday afternoon games. And to be sure, this would be the one scenario where there would be the most traffic which might compete with existing traffic. Keep in mind, the Giants and the National League could probably schedule as few as ten weekday afternoon games. So we are looking at perhaps ten out of 79, possibly 80 dates. An environmental impact, to be sure, but not a dominant one. (Steven Schnier)

Response

The analyses in the SEIR evaluate impacts of two types of event scenarios for an afternoon and early evening during the week. Both scenarios assume a sellout crowd at the ballpark (the evening scenario additionally includes an arena event at 50% capacity). Although baseball sellout events in San Francisco have been few in number, a fact that is discussed at some length on pp. 9-10 in the SEIR /7/, the analysis intentionally was based on these sellout assumptions in order to present potential future impacts that erred to the high side. It has been acknowledged by the Giants club that they are seeking higher attendance figures at a new ballpark location. To the extent that occurred in a new ballpark at China Basin, the associated cumulative impacts are covered in this SEIR analysis.

Afternoon ballgames during the week do not constitute a major portion of the home game schedule. Although there may be slight variations from one season to another, the 1988 Giants season provides a relevant point of

reference. Of the 79 games played at Candlestick, 12 occurred on weekday afternoons; 42 occurred on weekday evenings (one of those was on a holiday). The remaining 25 games occurred on the weekends. The end of the second paragraph on p. 10 of the SEIR /8/ is amended to add the following statement:

- **Of the 79 home games, 54 occurred on weekdays during the 1988 season. Of those 54, 12 occurred during the afternoon, while the rest occurred during the evening. Thus, sellout games on weekday afternoons are not likely to be a common occurrence.**

As acknowledged on p. 10 of the SEIR /8/, average attendance figures differ substantially between weekday and weekend games. The average for weekday and weeknight games during the 1988 season at Candlestick was about 18,800 and 18,100 attendees, respectively, versus an average of about 32,000 for weekend games. These represent relatively high figures, as the 1988 season produced one of the highest attendance records for the Giants.

One of the objectives of a downtown ballpark, however, is to further increase attendance. It is likely that a more central location would increase average attendance. Thus, to the extent such increases would occur, the SEIR analysis assumed that all 45,000 seats would be sold out, to ensure the most conservative coverage of cumulative impacts.

Comment

[On] Page 14 [the Draft Supplement states:] "If ballgames ended much after 3:00 p.m., public transit systems would have a difficult task in serving both the stadium and normal commute travel demand."

How many ballgames on the average go beyond the 3 hours and by how much? (Jack Moore, Potrero League of Active Neighbors)

Response

This Response is based on game time statistics for the 1988 season. Although there are likely to be fluctuations from one season to another, these data are representative of what is likely to occur in the future. In 1988, the average game time was 2 hours, 42 minutes. Nine games of the 79-game season lasted 3.0-3.5 hours, and seven games went over 3.5 hours. This tally covers all weekend, weekday and nighttime games.

Comment

[On] Page 17 [the Draft Supplement states:] "for Scenario Two, few people would arrive in the area by 6:00 p.m. for a 7:30 p.m. event."

We are being told that the idea of moving the stadium "downtown" is to get people there early to shop and eat. Which is it? (Jack Moore, Potrero League of Active Neighbors)

Response

On the basis of ballpark arrival/departure survey data, the majority of visitors arrive in the hour before the event commences. That survey data provided the basis for the analysis presented in the SEIR. Although one effect of relocating a ballpark closer to the downtown could be more retail and restaurant patronage, that is not the primary reason for consideration of the ballpark/arena proposal.

Comments

Lastly, I would like to call your attention to what I believe is a lack of study of the cumulative effects of simultaneous or overlapping events at a stadium and an arena. Since these two proposals are part of the same project, or are being proposed simultaneously, their cumulative effects must be analyzed and described in the draft EIR. I do not believe this was adequately realized. (Richard H. Moss)

Would you please discuss how -- Barbara [Sahm] told me earlier there is a rationale for doing the full stadium, but 50 percent capacity event at the arena. If one were doing a worst case, which is what I think EIR's are supposed to do, I would think there would be some discussion of both being full. If you have reason or precedence of why not to do that, would you discuss that. (Commissioner Bierman)

Response

The two scenarios analyzed in the SEIR are considered to be more than adequate for presenting a reasonable worst-case analysis of cumulative impacts of ballpark/arena events. The SEIR does evaluate a weekday evening scenario that assumes simultaneous events at both the ballpark and arena. The sellout ballgame and 50% attendance event at the arena produce an analysis of 55,000 visitors to the ballpark/arena facilities. Since historic ballpark attendance

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figures do not indicate sellout ballgames are a common occurrence, the cumulative analysis incorporates a margin of error (of overestimating impacts) that actually could cover a wide range of attendance combinations between the ballpark and arena, if events were to occur at both facilities on the same evening.

For weekday afternoons, the low frequency of major league ballgames that are now typically scheduled, combined with the sellout attendance figure assumed (as opposed to [lower] average figures that are likely to occur), again result in an analysis that already is likely to overestimate impacts by a substantial margin. That overestimate could be great enough to cover impacts of a sellout arena event; even if average ballpark attendance increased from current levels (ranging between 18,000 and 19,000) to 25,000, the overestimate of impacts in the weekday afternoon analysis of the SEIR (analyzed with 45,000-person attendance) would still be high enough to also cover cumulative impacts of a sellout arena event generally.

Based on historic game schedule and attendance data, an analysis that assumed simultaneous sellout events at both the arena and ballpark during or near the afternoon peak commute period (during which time worst-case transportation conditions are projected to occur on a regular basis) was not considered reasonable, as the likelihood of such a combination would be extremely low.

Comment

Page 4, "Event Times." The DEIR does not provide specific starting and ending times for events. It does not specify what types of events will occur at the stadium other than baseball games and how frequently the stadium may be used for such events. It does not indicate the number of baseball games and other events which will occur during various times of day. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

It is not possible to specify exactly the types or the schedule of events that would occur at the ballpark and arena. To the extent the intended uses of the facilities were known, they were described in "Project Description," pp. 2-4 of the SEIR /9/. The ballpark was assumed to be used primarily for major league ballgames, but

available for other events such as concerts as well. Use of the indoor arena would likely encompass a broader range of potential activities, including a professional basketball or hockey league franchise, concerts, conventions, and other public events. Although it is known there are about 80 home games in a standard baseball season and about 40 in a basketball season, it cannot be determined how many would occur on weekdays versus weekends, or evening versus day games.

For purposes of conducting the quantitative analyses, two event scenarios were selected for evaluation and are described on pp. 9-10 of the SEIR /10/. The weekday afternoon ballgame sellout was assumed to begin at 12:00 noon and end at 3:00 p.m. The weekday evening scenario assumed the ballpark and arena events would begin at 7:30 p.m.; since the SEIR analyses focused on additional cumulative impacts during or near the peak afternoon commute period only, no assumption was required for an ending time for the evening event.

Comment

Commissioners, in my younger days I worked on EIRs for an ecological consulting firm. Our guidelines were to put the best possible face on a worst-case scenario. Often, that worst-case involved conditions highly unlikely to ever occur. In this proposal, however, the worst-case is not only probable; it is assurable, and with frequency. The fact is that if the housing/light industry/office uses in effect now on Potrero Hill and proposed for Mission Bay, South Beach and China Beach [Basin] are to continue and thrive, the stadium and arena are an unmitigated, and unmitigatable disaster. For these reasons alone, I urge you to make a negative finding. (Marcia DeHart)

Response

The purpose of the SEIR is to examine the cumulative implications of a ballpark/arena in the context of considering approval of a plan for Mission Bay and South of Market; there is no associated decision recommendation regarding a ballpark or arena. It also should be noted that a recommendation to approve or deny a project is not an issue addressed in an environmental impact evaluation; that responsibility rests with the decision-makers after they consider both environmental and non-environmental (e.g., social, economic) aspects of a project.

To the extent that general information on impacts of the ballpark/arena can be identified at a preliminary stage, they have been addressed in the SEIR. The approval of a ballpark and/or arena project, however, would be subject to more detailed impact analysis in a separate environmental evaluation. It is presumed that, with a detailed site design and more-specified program of the types of activities that would be scheduled, there would be more precise information on the type, extent and duration of impacts, particularly in the localized area. Until that level of information has been reviewed and considered, it would be premature to make a recommendation for denying the project.

Comment

[On] Page 1 [the Draft Supplement states:] "To evaluate a scenario with adverse conditions that are reasonably likely to occur, the primary stadium/arena analyses assume the presence of the land use program described in EIR Alternative A in the Mission Bay Project Area."

This document should include an analysis of the stadium/arena impacts under Alternative C (the Citizens Plan for Mission Bay). Most reference is made to Alt. A and some to Alt. B & N, but none to Alt. C. Because the land use scenario is much different under Alt. C the impacts as well as assumptions would be much different. (Jack Moore, Potrero League of Active Neighbors)

Response

XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26, presents an analysis of Variant 11 (EIR Hearing Proposal), the land use program submitted by a group of citizens as Comments to the Draft EIR, which is referred to by the commenter. That proposal is analyzed as a variant to the three Alternatives evaluated in the Draft EIR. Generally, the conclusions indicate that impacts associated with the variant would not differ substantially from those projected to occur under Alternatives A and B, particularly with respect to cumulative impacts, which are the focus of the SEIR. Therefore, from the perspective of cumulative impact interactions between the variant and the ballpark/arena, the impact conclusions presented in the SEIR would be applicable to Variant 11.

Localized impacts between individual land uses in the Mission Bay Project Area and the ballpark/arena, however, would differ in some ways from general impact information in the

SEIR. The detailed evaluation of such localized impacts, however, would be subject to further environmental review of the sports complex, if and when a detailed design and activity program were arrived at for the ballpark/arena. Such a later environmental evaluation would be separate from this one being conducted for Mission Bay.

Environmental Review Process

Comment

Supplemental EIR. The California Environmental Quality Act (CEQA) states that the lead or responsible agency may choose to prepare a supplement to an EIR when certain conditions apply (14 California Code of Regulations Section 15163). The intent of Section 15163 is to provide a short-form method where only minor additions or changes would be necessary in the previous EIR to make that EIR apply in the changed situation.

Our comment is on the appropriateness of using a Supplemental EIR on a DEIR that has not yet been certified. The proposed action regarding the stadium and the arena should not be considered minor changes as defined in Section 15163. It is our recommendation that no modifications be permitted until such time as the original DEIR for Mission Bay is adopted. Any additions or modifications should be considered as other alternatives and their impacts evaluated. (James D. Boyd, California Air Resources Board)

Response

The commenter has misinterpreted the matter that will be presented to the City's decision-makers for action. At this time, there is no intent to forward a recommendation to the Planning Commission or Board of Supervisors regarding action on a ballpark/arena.

The Mission Bay and South of Market Draft EIRs and their Draft SEIRs were published and circulated for public review and comment for the purposes of ensuring that all pertinent environmental impact information has been disclosed prior to any City action to adopt a Master Plan amendment, zoning controls and a development agreement for a new mixed-use neighborhood in the Mission Bay Project Area, or Master Plan and rezoning for South of Market. None of the alternatives or variants analyzed in either Plan EIR includes a ballpark or arena facility. Those facilities have been identified as a separate project, which happens to be located

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adjacent to the Mission Bay and South of Market Project Areas (and, in the case of the arena, within the Mission Bay Project Area), and which would be subject to separate decisions at an unspecified future date, if a detailed design and activity program is pursued.

As explained on p. 1 of the SEIR /11/, the Mayor introduced the conceptual ballpark/arena proposal after the Mission Bay and South of Market Draft EIRs were published and had completed their public review periods. In light of the fact that such a project (if pursued) would generate additional cumulative impacts not accounted for in the Draft EIRs, it was determined that an SEIR would be needed to identify changes in circumstances under which a Mission Bay or South of Market Plan would be undertaken, in order for any discretionary decisions to be properly made.

In our assessment, delaying publication of the SEIR covering cumulative impacts until Final EIRs on the South of Market or Mission Bay Plans were prepared would have served no positive purpose. It is believed that the intent of the California Environmental Quality Act (CEQA) and its guidelines is to disseminate information on environmental impacts in a timely fashion, and to proceed with the environmental review process in the most efficient manner possible. It would be inadvisable to certify either Final EIR as complete without some information on the ballpark/arena proposal; therefore a supplement (with opportunity for review and comment) is necessary.

The intent of the current approach is to provide Responses to Comments received on the Draft EIRs and Draft SEIRs at the same time and compile them into the Final EIRs for Mission Bay and South of Market. It is true that the CEQA Guidelines do not call out this particular situation, but the regulations do encourage provision of as much information as is reasonably feasible, as early as possible. It is only after the Final EIRs have been completed that the City Planning Commission, followed by the Board of Supervisors, would take action on plans for Mission Bay and South of Market. The ballpark/arena project itself will be subject to further, separate environmental review if a formalized proposal for it is pursued.

Comment

. . . [B]efore commenting on the adequacy of the information and analysis of the DS [Draft Supplement], it is necessary to point out first that

this is only a preliminary or an anticipatory unofficial dry run environmental review process of a nonproject.

Unofficial environmental review of a nonproject. The MBDEIR is not a valid official environmental document or valid environmental review process for the Mission Bay project. . . . [or] address [of] the additional potential cumulative impacts of the proposed downtown baseball stadium and public arena.

Just six months ago the City Planning Commission held hearing on the Mission Bay Draft Environmental Impact Report (MBDEIR). After hearing public comments, the Commission did not close its review of the MBDEIR. By this action, the Commission acknowledged the validity of the public testimony that the environmental review of the Mission Bay project continues and, in fact, may not have been begun. By this action, the Commission acknowledged an overwhelming fact -- that the project developer, Santa Fe Pacific Realty Corporation, has not defined a proposed "project," i.e. the specific development agreement to be proposed to the city. Only as an accommodation to the developer, the Commission is going along with an "anticipatory" environmental review process. This is a dry run to prepare for the actual environmental review process to be initiated at a later date. Under these circumstances, the Commission is acknowledging that without a clearly defined proposed project, there cannot be initiated a valid official environmental review of such a nonproject.

At best, through this anticipatory environmental review process, the city is accommodating the developer's desire to minimize delays in the review and authorization of this project. Through this anticipatory environmental review process, the developer is saving time by: collecting the massive data describing the possible impacts of various project alternatives; preparing preliminary environmental documents; preparing supplements to those documents; and even inviting public comment about the adequacy of these preliminary documents. Through such time saving measures in preparing for the environmental review process, the Commission is accommodating the Santa Fe Pacific Realty Corporation and expediting the process so the developer can save valuable time and thereby achieve significant financial savings.

However, under no circumstances should the developer or the city construe that this anticipatory and obviously flawed environmental review process is a legitimate substitute in lieu of

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a valid official environmental review of the project. This DS, the MBDEIR, the City Planning Commission hearings, the responses to public comments on these documents, etc. all are in anticipation of the actual environmental review being initiated by the Commission at a later date when it is anticipated the developer will propose a specific project. At that time, it is expected the developer will have prepared an official complete Draft EIR for the project, issue this document to the public, and initiate the first official hearings on the official MBDEIR.

Given the above comment, it would be appreciated that complete information be provided responding to the following questions:

Q-1. Has the developer determined the specific project proposal, i.e. development agreement, for Mission Bay? If so, please describe the project being proposed. If not, when will the developer announce the specific proposed project for Mission Bay?

Q-2. When can the public expect to receive the official complete MBDEIR document (based on a specific project proposed by the developer) which will begin the official environmental review process for the proposed Mission Bay project? Will this be a completely revised MBDEIR or will this be a collection of documents including the anticipatory MBDEIR and any other anticipatory draft supplements issued? (John Bardis, Inner Sunset Action Committee)

Response

The Mission Bay Draft EIR (and its SEIR) has been prepared as a formal environmental assessment pursuant to all applicable provisions of CEQA and the State CEQA Guidelines. As explained in the EIR on p. IV.1 of Volume Two, Chapter IV. Study Approach and Organization, this is a program EIR, defined in Section 15168 of the State CEQA Guidelines. It is intended that this program EIR would enable amendments to be made to the City's Master Plan, adoption of a development agreement, and amendments to the City Planning Code and Zoning Map. The public comment period closed on November 21, 1988, for the Draft EIR, and on May 5, 1989, for the Draft SEIR.

This program EIR for Mission Bay will establish a comprehensive impact assessment and database against which to review detailed design- and construction-related impacts of later development phases, once they are identified. Those proposals for development of phased areas of the Mission Bay Project Area will be subject to subsequent

environmental evaluations, which also would include public review and comment periods.

The Draft EIR is the product of about three years of comprehensive research and analysis to evaluate impacts of a variety of alternatives and variants of those alternatives. The array of land uses and development densities analyzed reflects the range of possibilities identified as the Mission Bay planning process reached a point where preliminary planning choices could be made. This joint public planning process for Mission Bay between the City and SFP is still under way. Negotiations to further define a plan for Mission Bay are ongoing.

In May 1989, SFP submitted an application to enter into a development agreement with the City. Accompanying the application is their proposed land use plan, which is similar in scale and content to Alternative A. The comparative environmental impacts of that proposal have been evaluated in a variant analysis in XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46; this impact analysis will be added to the text of the Final EIR as a result of that Response. That proposal will be subject to further public hearings and review in the context of the development agreement negotiations.

Every effort has been made to incorporate changes and refinements for Mission Bay into the EIR as they evolve through the planning process. In this way, the analyses have grown to encompass 12 variants to the three Alternatives. Together, they provide a more fine-grained spectrum of information to better understand the range of impacts likely to result from the three Alternatives. It is anticipated that a final plan adopted for Mission Bay also would fall within the range of impacts analyzed. If that can be so determined, the Mission Bay EIR will be the official environmental document for the adopted Mission Bay Plan. Further environmental review could still be required for implementation of various phases of development if a plan and development agreement are approved.

Comment

Draft Supplement (DS). According to the memorandum dated April 7, 1989 from the Department of City Planning, the Draft Supplement addresses the potential cumulative impacts of the proposed downtown baseball stadium and public arena on the Mission Bay project. Given the observations noted above about the unofficial nature of both the environmental documents and environmental review process, and in the spirit of assisting the

Commission and the developer in their endeavor to address diligently the environmental impacts of this project, as required by the California Environmental Quality Act, the following comments are submitted regarding the DS.

Fails to address alternatives. Even though this DS is claimed to be only a supplement to the MBEIR and not an EIR, this DS is deficient for failing to address the impacts on the Mission Bay project of possible realistic alternative uses for the sites proposed for the stadium and the arena and compare the environmental impacts of the proposed use with those impacts generated by these alternative uses. More specifically, the DS should have described and compared the impacts [on] possible alternative residential and commercial uses. . . . (John Bardis, Inner Sunset Action Committee)

Response

As previously indicated, the purpose of the SEIR is to identify at a preliminary stage only the additional cumulative impacts that could be generated by the ballpark/arena proposal that were not assessed in the EIR. Those potential impacts must be taken into account by the decision-makers before taking action on Mission Bay or the South of Market Plan.

The SEIR does not, and is not intended to, suffice for the detailed environmental impact evaluation for the ballpark/arena proposal. Such an environmental evaluation would be conducted separately from the current EIR process from Mission Bay, if and when a formalized proposal accompanied by project-specific details is submitted for review. Identification and analysis of comparative impacts of various design, program, and/or location alternatives for the ballpark/arena would be carried out at that time.

Public Plans and Policies

Comments

The next, page 4. I just don't understand this. It's strictly technical. If the project doesn't meet public trust requirements, the SLC would have the authority to transfer the public trust to other lands determined to be appropriate.

I don't know anything about that. Would you please explain, and what the implications are. I don't know if the City gains or loses or what the effect is. Would you discuss that. (Commissioner Bierman)

[On] Page 4 [the Draft Supplement states:] "Disposition of Pier 46B for the construction of the stadium would be subject to review of the State Lands Commission to determine its compatibility with public trust restrictions."

What are the potential public trust restrictions for Pier 46B? (Jack Moore, Potrero League of Active Neighbors)

Response

Property under the jurisdiction of the Port of San Francisco, such as Pier 46B, is subject to several restrictions on use. These use restrictions arise from the Constitution of the State of California, common law, state legislation, and the 1968 Transfer Agreement by which the State transferred the property to the Port. These restrictions generally provide that the property must be used to further commerce, navigation, fisheries, and public access to the waterfront. Because of the use restrictions, the property is often described as being subject to a public trust. The San Francisco Port Commission and the State Lands Commission regulate the use of the trust property to ensure compatibility with the trust restrictions.

Comment

Page 2, Last Paragraph. The DEIR states that BCDC approval would be required and must comply with its public access requirements. Mention should also be made of other applicable waterfront planning requirements, such as height limits, Bay fill limitations, and land use restrictions enforced by the BCDC. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

The ballpark site would be subject to review by the San Francisco Bay Conservation and Development Commission (BCDC), which establishes Bay fill limitations, public access requirements, and guidelines for land uses and heights of structures within 100 feet of the Bay shoreline. A detailed discussion of BCDC's waterfront planning requirements is presented on pp. VI.A.20-VI.A.21 of Volume Two, VI.A. Public Plans, Policies and Permits.

The following is added after the last paragraph on p. 2 of the SEIR /12/:

- As the ballpark might be constructed within the 100-foot zone of BCDC jurisdiction, any design for the ballpark would be subject to BCDC's waterfront planning policies addressing limitations on filling of the Bay, compatible land uses, heights of structures, and public access to the shoreline. In addition to BCDC height-limit review, the project as proposed would require a reclassification of the City's height-limit of 40 feet along the waterfront. These considerations would be included among the project-specific impacts subject to later environmental review if and when a detailed proposal and design for the ballpark is pursued.

Land Use

General

Comments

I just have a couple of brief comments. This supplement was prepared to help us analyze, help us in our decisions with regard to the South of Market area and the Mission Bay project. It was not primarily designed to evaluate the direct environmental impact of the stadium. That may or may not happen at some future date.

I'm particularly interested in some additional information in this supplement that can help me look at the South of Market and Mission Bay plans a little bit more carefully when I make those decisions. And particularly I'd like some analysis, the differences in impact, if any, among the choices, for example, in the South of Market plan of, for example, changing the SSO District to an SLI District to a nighttime entertainment district.

I think that if we presume that there will be a stadium, then the choices of what kind of zoning we have around the stadium may exacerbate or ameliorate the impact of this stadium. And I think that's one of the things that we should analyze, because we're going to have to be making policy decisions soon with regards to that zoning. I'd like to know if there are any differential impacts, environmental impact, particularly in and around the stadium, First, Second, Third, Fourth Street, Townsend, Harrison, in the area that has been the most controversial for us.

Related to that, at one point we had a nighttime entertainment district along Townsend Street.

That's not in there now. But I know it's been discussed perhaps moving it along the Second Street corridor. And a nighttime entertainment district would coincide with night games. I'm wondering what the impacts might be in that regard.

The third area is what we haven't discussed with regards to the South of Market: What is the peripheral impact of a stadium on adjoining uses? Are we likely to see proliferation of, say, night -- not necessarily nighttime entertainment, but restaurant and bar uses, any other kind of retail activities that we'd have to be concerned with, and what impacts would we be dealing with with those, both in the South of Market area as well as the Mission Bay area, which is right across the street. (Commissioner Engmann)

Response

The presence of the stadium (and of the arena, for that matter) could attract complementary uses such as restaurants and bars, and other retail activities. However, this has not happened close to Candlestick Park in its almost 30 years of existence, despite the fact that Candlestick hosts both baseball and football, for about nine months of the year. The China Basin stadium would operate essentially for only about six months of the year, except for special events. (The arena could, however, extend the sports seasons to cover the full year, if professional basketball and/or hockey were to succeed there.)

The introduction of restaurants and bars, and other retail uses, probably requires an assured daily clientele over the course of the year. While such uses could enter the area, it would probably be because of the total development occurring there, including new housing in the South Beach Redevelopment Area and its surrounding neighborhood, plus the office, S/LI/RD and housing uses that would be introduced as Mission Bay develops. (For example, any proliferation of restaurants/bars, etc. in the area around the Oakland Coliseum and Arena must be attributed in part to the office and industrial development that has occurred along Hegenberger Road, west of I-880.)

It would not be possible to estimate the contribution of the China Basin stadium (and arena) to the demand for restaurants/bars, etc. in the area without a separate feasibility study conducted as part of separate planning and environmental review of the stadium/arena complex.

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The environmental impacts of increased entertainment and retail uses, were they to occur along Townsend or Second Streets, would differ from those generated by other commercial or industrial uses that would occupy those areas if they were zoned for Service / Secondary Office (SSO) and Service / Light Industrial (SLI) use, such as that proposed in the South of Market Plan. Land uses under those two zoning classifications would be mostly composed of smaller business and professional office services providing such services as advertising, architectural and sales (among others) in SSO districts, or various light industrial activities such as showroom/sales, small-scale sales, manufacturing and distribution businesses, and services to downtown businesses in SLI districts.

Whereas operating hours for retail and entertainment businesses generally include evenings and weekends, most SSO and SLI uses would tend to operate during weekdays. Retail and entertainment uses (many of which may occur during non-commute hours such as evenings and weekends) often generate more transportation-related impacts than typical SSO and SLI uses due to a higher frequency of visitor/commercial trips. To the extent that travel activity were to coincide with transportation impacts of the stadium or arena, local traffic and parking congestion could be exacerbated. Additionally, increased nighttime activity combined with any evening ballpark/arena events could aggravate noise impacts for residents in the vicinity.

The difference in impacts between SSO and SLI use types would be less apparent than that between SSO/SLI uses and retail/entertainment uses. Given the probable event times associated with a ballpark or arena (afternoons, evenings and weekends), there would not likely be many impacts generated by SSO uses combined with stadium/arena events that would not also occur with SLI uses. It should be noted that some SLI activities are likely to generate less travel demand than SSO activities. However, to the extent to which SLI uses could generate more truck traffic than SSO activities, and that such truck activity occurred while visitors were arriving at or departing from events at the arena or ballpark, local traffic conditions could be further aggravated. In any case, the difference in travel impacts posed by SLI versus SSO uses, from a cumulative perspective, would be marginal.

Comment

Fails to describe growth inducing impacts. The DS [Draft Supplement] does not describe at all

the environmental impacts of growth induced by the proposed stadium and arena. Nor does it compare these growth induced impacts with those generated by possible alternative uses for these two sites. In preparing the response to this comment, it would be appreciated that complete information be provided responding to the following questions:

What are the environmental impacts on the Mission Bay project of the projected direct and indirect growth induced by the stadium and arena?

How would the environmental impacts of the growth induced by the stadium and arena compare with those of alternative uses for these two sites, particularly residential uses? (John Bardis, Inner Sunset Action Committee)

Response

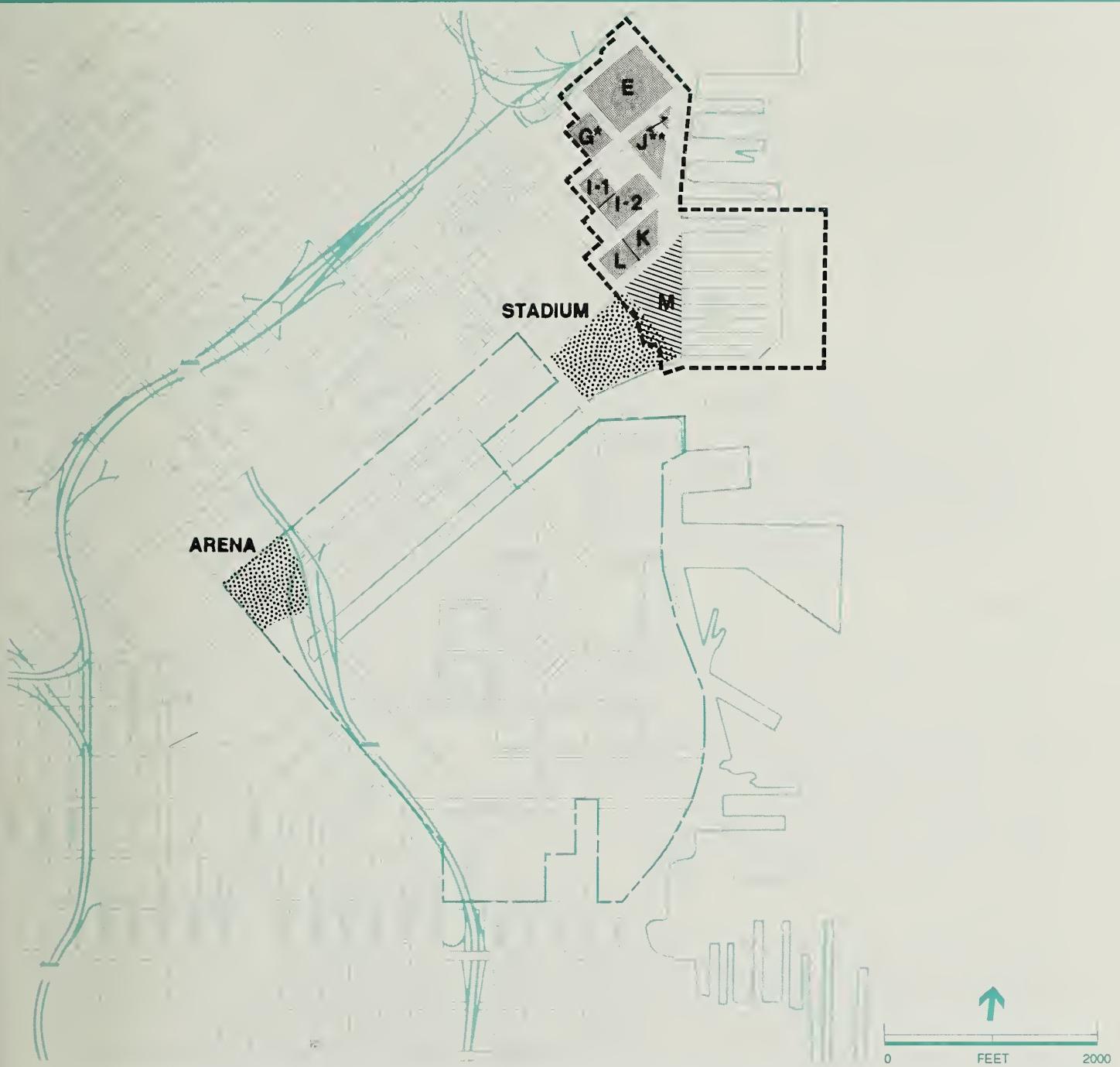
Alternative uses of the arena site are considered in detail in the Mission Bay Draft EIR. Alternative uses of the stadium site are not an issue in this SEIR, which was prepared to incorporate in the South of Market and Mission Bay EIRs the cumulative impacts of the stadium/arena on South of Market, Mission Bay, the rest of the City, and the region. Alternative uses of the stadium site would become important in site-specific environmental review of the stadium when a formal proposal comes before the Department of City Planning. See also the first Response under "Housing," p. XV.Q.19, regarding alternative housing uses on the stadium site.

Comment

Page 3, Figure 1: This Map is inaccurate. This Map should be extended to the northeast to accurately include the established boundaries of the South Beach Redevelopment Area. Site M, the five to seven acre park and waterfront promenade partially completed at Second, King and the Bay should be noted as well as housing Site L and affordable housing Site K at Townsend, Second and King Streets. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

Figure 1, on p. 3 of the SEIR /13/, is revised to extend the map to include the South Beach Redevelopment Area.



MISSION BAY BOUNDARY

STADIUM / ARENA

SOUTH BEACH REDEVELOPMENT AREA BOUNDARY

DESIGNATED RESIDENTIAL SITE
G* – Alternate Light Industry
J** – with Neighborhood Commercial

MAJOR PARK (Site M)

NOTE: All blocks are lettered in accordance with the site labeling in the Redevelopment Plan.

Mission Bay

SOURCE: San Francisco Redevelopment Agency;
and Environmental Science Associates, Inc.

FIGURE 1
LOCATION OF STADIUM AND ARENA AND
SOUTH BEACH REDEVELOPMENT AREA
DESIGNATED RESIDENTIAL SITES

Comment

Page 6, paragraph 1: The South Beach open space at Second between King and the Bay will attract users of the stadium and will create an additional maintenance factor. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

The third sentence in the first paragraph on p. 6 of the SEIR /14/ is revised as follows:

- **Open space in Mission Bay and in South Beach could become an attractive area for pre-game recreation by ballgame patrons, especially on weekends, less so for weekday afternoon and weeknight games.**

Comments

This sentence towards the end of that page [page 4], "There would be enough undeveloped land at those alternative locations to permit such displacement," talking about displacement of service light industry and R&D uses at the site. It would not result in higher buildings there. I don't quite understand whether that displacement can take place. What the height is supposed, it's pretty vague, and what uses might be affected if that -- I don't know if it will affect housing. Just be more specific as to what that's about. (Commissioner Bierman)

Another point is that if the arena is assumed to be inserted at Seventh and Townsend in the [Mission Bay] Alternative A proposal, the SLIRD that's displaced there is going to somehow be consolidated with SLIRD elsewhere in Mission Bay. We know this has to increase the footprint if it doesn't increase the height. What uses are going to suffer? Possibly open space. This should be discussed. And it's a similar situation with regard to Alternative B, where the housing that would be proposed for that site is somehow going to be incorporated into the rest of the project. What uses will suffer if it's open space? I hope that the Final EIR will come out and say so. (Ruth Gravanis, San Franciscans for Planning Priorities)

Response

The intent of the SEIR was to indicate that

S/LI/RD uses proposed in Alternative A at the Seventh and Townsend Streets site shown as potentially occupied by the arena in the SEIR could be fitted onto other S/LI/RD sites in Alternative A. With building heights at those other sites retained, this accommodation would require an expansion of building footprints on those S/LI/RD sites. This could result in reduction of the at-grade parking areas or the publicly accessible open space (lawns, landscaped areas or plazas) included with those S/LI/RD sites, the latter estimated in the Mission Bay EIR on p. V.2 of Volume Two, Chapter V. The EIR Alternatives and Approval Process, at about 10-15% of the S/LI/RD land area.

Conversely, the heights of the S/LI/RD structures could be increased from the proposed two-to-six stories (30-60 feet) (but no higher than eight stories) to have more buildings at the upper limit, and less building articulation, without an increase in the building footprints. There would be no effect on the provision of housing in Alternative A. Under Alternative B, proposed housing would be displaced by the arena. Again, this housing would be accommodated in the other proposed housing areas; there would be room for this, as more than half the land area of Mission Bay is proposed for housing in Alternative B.

Port

Comment

Additionally, the report makes several references to potential use of areas near active port facilities at Piers 48 and 50 for ancillary stadium-related activities such as pre-game recreation, charter-bus/automobile parking, 'parking ships', induced commercial development, etc. Although these are not described in enough detail for me to make definitive evaluations, it should be noted that some of these activities are potentially incompatible with active terminal operations, to the degree that they might present safety/security hazards, or the traffic they generate might interfere with efficient truck/rail access to the piers.

I must stress that Piers 48 and 50 are expected to remain active and very busy for a long time. Their viability requires efficient and dependable land-side access by heavy trucks and railroads. Stadium traffic and crowds should be avoided at those sites which would impede pier-oriented traffic. (Richard J. Wiederhorn, Port of San Francisco)

Response

The SEIR was prepared primarily in the context of Mission Bay Draft EIR Alternative A, which, at build-out, shows parkland uses in the area bounded by China Basin Channel, China Basin Street, Mission Rock Street, and Third Street (OS-1, Alternative A, shown in Figure VI.I.12 of the Mission Bay EIR on p. VI.I.58 of Volume Two, VI.I. Architectural Resources and Urban Design), and port-related uses south of Mission Rock Street, east of Fourth Street extended. (Alternative B, at build-out, shows parklands and wetlands in this area just south of the channel [OS-7, Alternative B, shown in Figure VI.I.13 on p. VI.I.63 of Volume Two], and housing south of that open space.) In the year 2000, Alternative A would already have its parkland at the location described above; Alternative B would still have its currently existing uses there. Therefore, the Comment is applicable, under Alternative B, to the period up to about the year 2000 and, under Alternative A, to the area south of Mission Rock Street throughout the Mission Bay development period. The reference in the SEIR to pre-game recreation applies to the open space proposed in those land use alternatives. Effects of the Mission Bay Alternatives on port operations are discussed on p. VI.B.115, et seq., of Volume Two, VI.B. Land Use, Business Activity, and Employment. That discussion indicates that adjacent maritime / port-related activity would not likely intensify under Alternatives A and B. Additional impacts generated by the stadium could create further difficulties for port operations, in terms of access, to the extent to which scheduled events coincide with activity at Piers 48 and 50.

It should be noted that the EIR includes Variant 2 (Port-Priority Retention), described on pp. VII. 10-VII.19 of Volume Two, Chapter VII. Variations on Alternatives, which analyzes a residential mixed-use program that reserves all land east of Third Street for port-related use. If such a program were adopted for Mission Bay, the pre-game recreation and induced commercial development impacts indicated in the SEIR would not apply. Transportation access impacts, however, would still be one potential effect of the stadium.

At the time the Draft SEIR was published, the concepts of parking ships and parking on backlands to Piers 48 and 50 were identified as potential mitigation measures. Further work on developing a parking program for the ballpark/arena may reveal other arrangements than those identified in the SEIR. Those issues would be subject to further separate environmental evaluation for the sports facilities complex, apart from this SEIR for Mission Bay.

Comment

The Draft Supplement understates the potential displacement of commercial/industrial uses on Pier 46B and associated parcels. Of particular note is the omission of the need to relocate the Port's Maintenance Base. While this is not displacement of a private enterprise, it is an important maritime service upon which the entire port depends. (Richard J. Wiederhorn, Port of San Francisco)

Response

While this impact is discussed on p. 5 of the SEIR /15/, a detailed analysis of the significance of the loss of the port's Maintenance Base would be subject to further evaluation in a separate project-specific environmental evaluation on the stadium and arena, prepared as part of the approval process for the sports complex.

Employment

Comment

On page 6 the document does not mention the fact that construction of the stadium/arena will add to citywide and regional employment on a temporary basis until 1995 during the planning, design and construction of the facilities. (Gary Adams, Caltrans, District 4)

Response

The following paragraph is added after the second paragraph on p. 6 of the SEIR /16/:

- Construction of the stadium/arena would add to citywide and regional employment on a temporary basis until 1995 during the planning, design and construction of the sports complex.

Comment

The bottom of the page [p. 4], the last sentence talks about displacing existing commercial industrial uses in the one- and two-story buildings. I think we need to know how many jobs would be lost and what they would be. But in connection with that also, people today have talked about the job loss if the Giants leave. And I would think somewhere in this document there should be mention of how many jobs that is, and I didn't find it. (Commissioner Bierman)

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Response

The following changes and additions are made to the SEIR.

The first sentence in the last paragraph on p. 4, continuing on to p. 5 /17/, is revised to state:

- Construction of the stadium would also have the direct impact of displacing existing commercial/industrial/office uses, in one- and two-story buildings that face on Berry Street between Second Street and Third Street.

The following sentences are added following the first full sentence on p. 5 /18/:

- North of Berry Street, this action would displace an estimated 260 workers, including about 170 service/light-industry employees and about 90 office workers./1/ Some of the uses that would be displaced are maritime-related.

The second full sentence on p. 5 /18/ is revised and a new sentence is added, as follows:

- The uses south of Berry Street along China Basin (Pier 46B) are mostly maritime-related; several active tugboats operate there. Employment is estimated at 40 persons./2/

The third full sentence on p. 5 /18/ is deleted.

The following new paragraph is inserted after the partial paragraph at the top of p. 5 /18/:

- The I-280 Transfer Concept Program (TCP) would widen King Street to become King Boulevard by 1994. The King Street widening would remove an 80-to-90-foot-wide strip of land along King Street from the block bounded by King, Berry, Second, and Third Streets. This action would either displace uses that face on King Street or else reduce their property sizes by about one-third. Depending on building construction and conditions, this action could also weaken other structures within this block that face on Berry Street. This could displace those uses or require structural improvements to those buildings./3/ Those impacts would be due to the I-280 TCP, and not a result of the stadium project.

It should be noted that the King Street widening would also reduce the size of the stadium site shown in Figures 1, 2 and 3 /19/. These figures, shown on pp. XV.Q.15, XV.Q.39 and XV.Q.40, respectively, of this document, are revised to show this.

Also, the following notes are added under a new heading, "Notes - Land Use, Business Activity, and Employment," at the bottom of p. 6 of the SEIR /20/:

- /1/ Employment estimates based on interviews and estimated building areas, using density factors shown in Table XIV.A.2, in the Mission Bay Draft EIR, Volume Three, August 1988, San Francisco Department of City Planning (86.505E), pp. XIV.A.10-XIV.A.12.
- /2/ Employment estimate is based on a ratio of employees to building area, derived from interviews.
- /3/ Margaret Divine, P.E., Project Manager, San Francisco Department of Public Works, telephone conversation, July 18, 1989.

The objective of the SEIR was to assess the effects of development of the stadium/arena as an addition to the cumulative baseline for evaluation of the Mission Bay and South of Market projects. In that context, the job loss should the Giants leave San Francisco would be statistically insignificant. The significance of that potential job loss would be subject to separate, project-specific environmental review on the stadium and arena, which would be prepared separately as part of the approval process for the sports complex.

The San Francisco Giants' payroll includes employees and contract employees in the following categories: administration, baseball operations, accounting/finance, tickets, public relations, marketing/promotions, sales, retail, clubhouse, broadcasting, and stadium operations. Year-round full-time staff number about 80. Seasonal employees, who work only during the baseball season, approximately 6.5 months, 30 hours/week, number about 740. Thus, there is a total of about 820 individuals, or about 380 person-years (40 hours/week) per year. These numbers do not include vendors, who are employees of the Harry M. Stevens organization; radio and television network/station employees; or minor league staff or scouts. Most of the counted jobs would remain in the Bay Area (and job holders could remain in their existing residences) if the Giants left San Francisco for another home in the Bay Area, but the local jobs would disappear if the team left the Bay Area. In the non-counted categories, the vendors and many of the radio and television employees could remain in the Bay Area if the Giants did. The minor league staff and scouts, most living elsewhere, would be unaffected by a move of the team./21/

Comment

Further down in the next to last paragraph [on p. 6], mitigation measures about displaced maritime related operations. This says mitigation measures could include relocation assistance for displaced businesses. I'd like to know where they will go. Earlier in the document, it said -- or someplace it says there really aren't places to relocate maritime uses. I think you have to do a little more work on where they would be relocated or if they can be. (Commissioner Bierman)

Response

Details about relocation of maritime uses due to the stadium cannot be specified at this time. The loss of maritime uses on the stadium site, and the possibility of their relocation, would be subject to project-specific environmental evaluation on the stadium and arena, which would be prepared separately as part of the approval process for the sports complex. Such questions would be important in the approval process for the stadium, but do not bear on the approval process for Mission Bay.

Housing

Comment

How many housing units could be constructed on the sites proposed for the stadium and the arena?

How would the environmental impacts of alternative residential uses for the stadium and arena sites compare with the impacts on the Mission Bay project generated by the stadium and arena? (John Bardis, Inner Sunset Action Committee)

Response

There is no known proposal to develop housing on the stadium site. If the stadium is not built, the cumulative additions outside Mission Bay, as described under the No-Project Alternative in the Mission Bay Draft EIR, would prevail. In any event, it would not be possible to estimate the number of housing units that could be constructed on the stadium site in the absence of specific information on proposed building height, dwelling-unit type, and restrictions on height and bulk, etc.

With respect to the number of housing units possible on the arena site, that has already been evaluated as a component of Alternative B in the Mission Bay Draft EIR.

In the context of cumulative development as a baseline for the evaluation of the impacts of development of the South of Market and Mission Bay projects, residential uses on the stadium and arena sites would add less to the traffic baseline, for example, than would the stadium and the arena, for which the SEIR evaluated the impacts of daytime attendance of 45,000 and evening attendance of 55,000. (In Alternative B, with the largest number of housing units of the three Mission Bay Draft EIR Alternatives, the total number of Mission Bay residents at build-out would be about 18,700.) Housing on the stadium site would increase the housing/jobs ratio in San Francisco, if it did not replace housing that would be built elsewhere in San Francisco. Housing construction on the stadium site would displace existing uses, just as the stadium would. As noted above, housing on the arena site has already been analyzed as a component of Alternative B in the Mission Bay Draft EIR.

Comments

. . . I don't believe that [the supplemental EIR] adequately focuses on the impact that this facility would have on the development of housing in the South Beach area.

Housing is San Francisco's most critical problem. Affordable housing is a goal that is always beyond our grasp. We're trying to do something about that in South Beach. For the last 15 years there has been a planning policy on the books to construct new housing in the South Beach area. I think the Environmental Impact Report should mention that and consider the impact of this facility on the construction of additional housing, as well [as] the impact on new housing. It is very unlikely that new housing could be built in that area, given the very severe adverse impacts of this stadium development. New housing in the Mission Bay and South Beach areas would be jeopardized. I think that we have to look at what the impact would be on Mission Bay as well. (Stephen L. Taber, San Franciscans for Planning Priorities)

Another fact is that the ballpark does not jeopardize affordable housing. The Redevelopment Agency has cleared the way for the nonprofit development of nearby Site K for low-income housing. Both the ballpark and arena sites are considered inappropriate for

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housing. The Redevelopment Agency has recommended that many other opportunities for housing be examined in the area exclusive of the ballpark and arena sites. More than 8,000 units of housing will be part of Mission Bay, and we're shooting for 40 percent of them to be affordable. (Barbara Bagot, San Francisco Ballpark Alliance)

Page 5, First Full Paragraph. The last sentence states that the main impacts would be on nearby residential areas, existing and proposed. The next paragraph describes existing developments in the South Beach area and proposed developments in the Mission Bay plan. However, it neglects to mention proposed developments in the South Beach area and proposed additions to the redevelopment area, which are now under consideration by the commission. In addition, it does not adequately describe the impact on the proposed housing. The EIR should expressly state that because of the size, bulk, incompatibility of use, noise, traffic, and other impacts, developers and lenders will likely look disfavorably upon the commitment of financial resources for the development of new housing in the vicinity of the stadium. In the absence of such financing, it is unlikely that such new housing could be constructed. . . .

Page 5, paragraph 3: The closest housing sites to the proposed stadium are Redevelopment Sites L and K just across the intersection of Second and King between 2nd, the Embarcadero and King. Site L will accommodate approximately 205 new housing units with a portion guaranteed affordable, and Site K will handle approximately 127 new affordable units. Both of these properties are currently being actively discussed for development and will be directly affected by the proposed stadium. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

The next page, page 5, it talks about -- it's just a sentence. The main impacts would be on nearby residential areas, existing and proposed. I know later there is some discussion of what those are, but I think they should be listed here as well.

The next paragraph, it talks about housing being lost, but I think you need a count, particularly of the new housing. You mention Delancey Street and you mention South Beach. I think you ought to -- you really ought to get the figures from the developments -- it shouldn't be hard to do -- so you know how many units have been built. (Commissioner Biernan)

If you're wondering about the real environmental impact, I'd suggest thinking of San Francisco's

children in the years hence, and I would hasten to remind you that property values across from Wrigley Field have risen three and four times over the last five years, and that the proximity of ballparks also has served those who live nearby in Baltimore and Boston. Before Robert Moses ran the Cross Bronx Expressway through the Bronx, the Grand Concourse a couple of blocks east of Yankee Stadium was for thirty years one of New York's most fashionable boulevards. Don't expect something we can all be proud of to detract from our city; expect it to enhance it. (Robert M. McGee)

We also feel that the impact of the stadium on the new residential areas being developed South of Market is not adequately addressed within the report. (Toby Levy, South Park Improvement Association)

Response

The following changes and additions are made to the SEIR.

The first sentence in the second full paragraph on p. 5 of the SEIR /22/ is revised, as follows:

- Existing residential developments in the South Beach Redevelopment Area and South Park are close to the proposed stadium site, as is the South Beach marina (see Figure 1, p. 3, for locations of South Beach blocks).

The second sentence in the second full paragraph on p. 5 of the SEIR /22/ is revised and expanded, as follows:

- The closest existing South Beach residential structure is the South Beach Marina Apartments (Site 1-2), a four- to fourteen-story complex in the block bounded by Colin P. Kelly, Jr. Street, First Street, Brannan Street, and Townsend Street, about one block north of the stadium site. This complex contains 414 dwelling units (207 one-bedroom, 207 two-bedroom), about 80 of which are being rented at below-market rates.

The third sentence in the second full paragraph on p. 5 of the SEIR /22/ is revised and expanded and new paragraphs are added, as follows. The fourth through seventh sentences in the second full paragraph on p. 5 of the SEIR /22/ are reformatted to become a new, separate paragraph.

- About 1-1/2 blocks north of the stadium site is the four-story Delancey Street multi-use

project (Site J), on the Brannan/First/Embarcadero triangle. This project is scheduled for completion in June 1990 /4/, and contains 177 dwelling units, as well as educational and commercial space. The existing South Park mixed-use neighborhood, containing about 140 dwelling units, and occupying the block bounded by Bryant, Brannan, Second, and Third Streets, also is located about 1-1/2 blocks away.

In addition, there is the Bayside Village residential development (Site E), about two blocks north of the stadium site. The first two phases of this project were completed at the end of 1989; the third phase is scheduled for completion in mid-1990./4/ This project contains 868 dwelling units, including about 170 low-income units.

Proposed residential developments in the South Beach Redevelopment Area include Redevelopment Sites K and L, both of which are in the Second/King/Embarcadero triangle, across Second Street from the proposed stadium site. Site K is proposed to contain 125 dwelling units (all rental), including about 60 low/moderate income units. Site L is proposed for development of 235 dwelling units (either condominium ownership or rental), including about 50 low/moderate income units. South Beach Redevelopment Sites G and I-1, about one block and two blocks north of the stadium site, respectively, are additionally designated for housing development; planning for those sites is in the early stages.

The South Beach Redevelopment Area could be expanded in the future. The San Francisco Redevelopment Agency is working with appropriate City staff and citizen advisory groups, to look at other possible sites for housing outside of but close to this area./4/ Those discussions could lead to a formal proposal for Redevelopment Area expansion.

Also, the following note is added to the bottom of p. 6 of the SEIR /23/ after a new heading, "Notes - Land Use, Business Activity, and Employment":

- /4/ Frank Cannizzaro, San Francisco Redevelopment Agency, telephone conversation, March 29, 1990.

More details, about existing and proposed residential development in the Mission Bay Project Area that would be affected directly by the arena and the stadium, are provided in the

following pages of the Mission Bay EIR, Volume Two. For a plan illustration of existing houseboats in China Basin, see p. III.7 of Chapter III. Background and Area Description. For descriptions and plan illustrations of housing under Mission Bay Project Alternatives A and B, see pp. V.5-V.18 of Chapter V. The EIR Alternatives and Approval Process. For descriptions and plan illustrations of housing under ten variations of the EIR Alternatives, see pp. VII.1-VII.57 of Chapter VII. Variations on Alternatives.

The objective of the SEIR is to assess the effects of the stadium/arena as an addition to the cumulative baseline, not to evaluate in detail the project-specific effects of the stadium/arena. The latter would be subject to a separate environmental evaluation of the sports complex, as its own review process proceeds. The possible effects of a sports complex on the financial feasibility of building housing nearby, or on nearby property values, would require a detailed economic feasibility analysis, which is outside the scope of CEQA documents.

Comments

All I want to say is that the report should really pay a lot of attention to direct and indirect effect on housing of the stadium. The noise and the light and the crowds are very unpleasant for people who are trying to live ordinary lives. And the height of this stadium, four times the height that should be allowed in that area, is really a spectacular violation of law and reason. And we should look very carefully at that before we allow it. (Scott O'Keefe)

Housing. There is a critical shortage of housing in San Francisco. Mission Bay and nearby developments are depended upon to alleviate this shortage in low and moderate income categories as well as in market rate housing. A stadium across the street, or even nearby, will cut down on satisfactory housing possibilities with bright lights and noise from night games, and traffic congestion. Noise can't help but be well above city standards. The planned stadium will exceed city height limits, cutting off views of the Bay for others. (Sarah M. Hallam, San Franciscans for Planning Priorities)

Response

The impacts of the stadium (including those resulting from its height) on nearby housing uses are discussed throughout the SEIR.

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Comment

. . . Assuming a stadium and the impact of a stadium, where would you locate the housing in the most appropriate fashion? The same kind of issues that we're going to face in the South of Market, we'll have to face in Mission Bay if we assume that a stadium will be there.
(Commissioner Engmann)

Response

There is no proposal by the Mission Bay project sponsor or the Department of City Planning Mission Bay planners to change the Mission Bay development agreement application or the Draft Plan in response to a stadium proposal. From a land-use perspective, housing sites in Mission Bay most directly affected by the stadium would be the Third/Berry/Fourth/Townsend blocks under Alternative B, across and diagonally across Third Street from the stadium. All other housing sites, in both Alternative A and Alternative B, would be at least one block away from the stadium; many of them would be shielded from noise and glare impacts by intervening non-residential buildings. However, those residents would still be exposed to traffic congestion generated by the stadium (and arena).

Variant 12 (Development Agreement Application), in XV.P. Alternatives and Variants, pp. XV.P.27-XV.P.46, includes a land use plan that would locate all housing south of China Basin Channel. At that distance, impacts of the stadium would be less intrusive to residents than if housing were north of the channel.

Socioeconomic Impacts

Comments

The cumulative impacts do not include two very vital points, and those are job and economic impacts. The Giants employ two to three hundred people on both a full- and a part-time basis. Income to the City in the amount of \$90 million annually is directly attributable to the Giants ball club. . . . (Barbara Petersen)

. . . I think it [the Draft SEIR] didn't address at all, but many people have said it, it understates the impact of the ballpark on the development of kids, the importance of an accessible, good recreational facility for the youth.
(William Sloan)

I also would like to point out that I thought the report was well written. However, it ignored certain items. There are two items in particular that I'd like to talk about.

One is that it did ignore the positive impact on the economics of San Francisco and also the positive impact on jobs in San Francisco. That was touched on very lightly and said that the report would not try to evaluate that. However, I think that in ignoring that, you are ignoring many of the positive effects of the ballpark.
(Andrew Gordon, San Francisco Ballpark Alliance)

The supplement is silent where it does not adequately address, in our opinion, the jobs, the physical [fiscal] impact to the city, which we believe are critical issues.

. . . [B]ut it does not quantify the unquantifiable and the intangible -- that is, the civic pride of San Franciscans. And how do we quantify that in an Environmental Impact Report? (Richard Morten, San Francisco Chamber of Commerce)

There are a lot of facts that support the ballpark being built in China Basin, facts that were not documented in the Supplemental EIR. Jobs preserved and created. Dollars poured directly into the City treasury. Economic spinoff benefits to surrounding businesses. A ballpark that's accessible to kids, to seniors, to disabled, to all of us through every major public transportation line in the Bay Area. San Francisco is the transportation hub of the Bay Area.
(Barbara Bagot, San Francisco Ballpark Alliance)

When the business community starts to see that San Jose has superseded them in so many other ways and snatched our baseball team from underneath us and people from the outside world start to move in to the area and say, "Well, where should we move in California? How about we move into San Francisco area? Well, no, let's move to San Jose or Santa Clara" -- or wherever else the Giants may end up going.

There is an identity that business makes with a sports community. Business decisions are made in a sports facility like the Giants games provide. There is going to be an economic impact. And to not provide that thinking in an Environmental Impact Report is going to be a travesty of justice for the system, not only economically but for the youth of this City.

I would just implore people who are going to be a lot more eloquent on the subject tonight and people who dedicate themselves to these

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environmental impact studies to take a big picture approach to this problem and not just the traffic problems that they are talking about and proposing right now. (Stan McGinnis, Rochester Big & Tall Clothing)

Fails to describe economic impacts. The DS [Draft Supplement] fails to describe the economic impacts on the Mission Bay project of the proposed stadium and arena and compare those impacts with the economic impacts of alternative uses for these two sites, particularly alternative residential uses. Given this comment, it would be appreciated that complete information be provided responding to the following questions:

What is a complete description of the direct and indirect economic impacts on the Mission Bay project of the proposed stadium and arena? Please identify all the businesses which must be displaced, the number of employees affected, and the cost of relocating these businesses.

What is a complete description of the direct and indirect economic impacts of possible alternative residential uses for the two sites and how do these impacts compare with those impacts generated by the proposed stadium and arena? (John Bardis, Inner Sunset Action Committee)

Response

The potential beneficial social and economic impacts of development of the stadium would be considered in the decision-making on the stadium at a future time when approval of the sports facilities is under consideration. In any case, such economic and social aspects fall outside the scope of environmental impact analyses, which focus on physical changes to the environment. Economic and social cost/benefit analyses are more appropriately studied as a separate matter outside the CEQA process.

Comments

The quality of residential life and work experience of people exposed to the increased congestion will be intolerable. The impact of increased parking costs as well as traffic problems for visiting clients and suppliers to the South of Market business community was not addressed in the report. We request that this report, which could be viewed by the environmental report trade as what is known as a "friendly report," be expanded by input from additional professional and public sources. (Toby Levy, South Park Improvement Association)

. . . But most of all, this does not report on the quality of life issue that will face those of us who are in the area and the quality of life decline for those people who work and live south of Market.

Our streets will be blocked off, according to the report, to protect us from traffic. We don't want to be protected in that way. What about our daily life of coming and going? What about clients who visit our businesses in the area? Where are they going to park? What about the increase of cost for our employees who are also in the area? What about their quality of life? No transit system has relieved congestion in this City, and yet there is talk of that within this. (Bruce Burdick, South Park Improvement Association)

Response

Stadium/arena effects on quality of life in the South of Market are discussed in the SEIR in terms of land use, traffic, air quality, noise, shadowing, and visual impacts of the stadium and arena. Further detail on these issues is reserved for a separate environmental evaluation to be conducted when more program and design details of a ballpark/arena proposal are defined and pursued. At that time, social, economic or other non-physical effects of a stadium/arena proposal that fall outside the scope of environmental review should be addressed as planning issues.

Open Space

Comment

You've heard said before that the Mission Bay plan as proposed is inadequate with regard to the open space that it provides with respect to quantity, distribution, diversity, and that the Mission Bay EIR fails to adequately address those deficiencies. The stadium-arena proposal will compound the problems already created by the Mission Bay proposal, and this supplement fails to address those cumulative impacts.

As the Draft Supplement states, open space in Mission Bay could become an attractive area for pregame recreation by ballgame patrons, especially on weekends. That should be perfectly fine. The open spaces in Mission Bay should be such that lots of visitors could be accommodated playing there, but it's simply not the case. There isn't even enough recreational opportunities for the residents of Mission Bay. (Ruth Gravanis, San Franciscans for Planning Priorities)

Response

In XV.D. Community Services and Infrastructure, the second Response under "Open Space Demands and Requirements," p. XV.D.2, addresses the relationship of Mission Bay open space to National Recreation and Park Association open space standards and the Recreation and Open Space Element.

Comment

I'd also like to point out here that if we meet our housing affordability goals for both Mission Bay and for the South of Market, we're talking about a lot of low- and middle-income residents who are being deprived of the opportunity for active participatory fresh air and exercise kinds of recreational opportunities.

The Mission Bay Draft EIR . . . suggests that as a mitigation measure [for] more open space [to] be provided elsewhere. Well, the stadium proposal would remove a major opportunity to provide such mitigation. (Ruth Gravanis, San Franciscans for Planning Priorities)

Response

If the stadium is not built on the proposed site, there is no reason to indicate that the maritime and industrial/commercial uses on that site would disappear. That is, there are no active proposals to replace those uses with open space; that site is no more a major open space opportunity site than any other in the area. It is not a part of the Mission Bay Project Area. Since most of the area is occupied by land use activities, the creation of additional open space would likely require some displacement of existing uses.

Comment

And another open space issue related to the stadium is public access. I'll take linear access first. I'm sure you're familiar with the Bay Trail mandated by state legislation. It's proposed to skirt around the stadium site because supposedly that site was going to be needed for maritime uses. If it's not needed for maritime uses, the Bay Trail should be along the shoreline there, and we should look carefully at the compliance of the stadium proposal with the McAteer-Petris Act also. I don't think it's a water-related use. (Ruth Gravanis, San Franciscans for Planning Priorities)

Response

One conceptual proposal for the stadium shows an easement along the channel for public access. This will be subject to refinement and further review if a formal proposal for stadium approval is developed. BCDC would be included as part of that review, and would evaluate the proposal from the standpoint of its consistency with the Bay Trail plan (among other issues). Therefore, it is possible that the stadium would not preclude a Bay Trail along the channel at this point. See also the second Response under "Public Plans and Policies," on pp. XV.Q.12-XV.Q.13.

Transportation

General

Comments

. . . [T]he Environmental Impact Report ignored the fact that many of the people attending the ball games will be people who are in San Francisco because they live there or because they work there. They've commuted there. They've taken public transportation there or they have driven there. They will not be going home first and then returning to the ballpark. They instead would take public transportation, walk, or take other means to get to the ballpark. Therefore, the congestion ratios, traffic ratios that you've looked at have been overstated. (Andrew Gordon, San Francisco Ballpark Alliance)

Second, keep in mind that for weekday evening games, many who attend these games will be working in San Francisco, and therefore, rather than commute home and then commute back, will in fact be avoiding the evening commute, thereby reducing traffic. (Steven Schnier)

Traffic, in my opinion would not be an issue given prudent scheduling of events, extension of MUNI lines and additional parking structures. Traffic should actually be lessened on night events as commuters would have an opportunity to spend an evening in the City thereby reducing traffic during evening drive time.

I am very concerned about the negative conclusions of the Draft Supplement to the Mission Bay Draft E.I.R., as I believe some of the findings are an over-reaction to an improbable scenario. As you may recall, there was virtually no parking at Kezar and sparse bus service, but everyone seemed to arrive and depart in a timely manner for 49er games. Given a comfortable,

first-class stadium and arena, San Francisco would have something with which to be proud and could reap the benefits of countless additional dollars. (Steven J. Sockolov, Rochester Big & Tall Clothing)

Response

It is likely that not all trips emanating from ballpark/arena events would be net new trips on the local and regional transportation system. The following paragraph is added to follow the third paragraph on p. 10 of the SEIR /24/:

- Weekday and weeknight ballpark/arena events would potentially attract a large number of people already in the downtown. Thus, when this occurs, ballpark/arena trips made by downtown attendees would either replace what would otherwise be standard commute trips out of the downtown (following an afternoon game), or be deferred until after the commute period (following an evening game or event). The degree to which this would occur with the proposed ballpark/arena facilities cannot be estimated at this time, and there is therefore no accounting for this factor in the transportation analyses. Thus, the analyses presented below, which assume all ballpark/arena travel would be a net new component of trips on top of projected commute conditions, represent another conservative assumption which double-counts some unquantifiable portion of trips in this cumulative analysis.

Comments

The study mentions, but really neglects to take into account the offsetting impacts of trips being generated at the China Basin stadium versus those that would otherwise be generated at a sellout game at Candlestick Park. Ironically, a China Basin ballpark when compared to results of a similar sellout at Candlestick could effectively lessen impacts certainly on the Bay Bridge because of the greater ease of access to and increased use of public transportation, and even possibly on the Golden Gate Bridge, though more fans are likely to come from Marin with the China Basin ballpark. (Robert M. McGee, South of Market Business Association)

I think one of the key things is the business of two commutes. If you're like the quarter of a million people in downtown San Francisco who want to

attend a game at Candlestick, it's necessary to drive either Third Street, Bayshore, the freeway, and that takes a half hour to 45 minutes to park. If you're heading back towards the East Bay or to Marin County, you have to get back on 101. That's the only access at Candlestick.

The good thing about the proposed site is there is access on 280, there's immediate access to the Bay Bridge, 101 southbound, 280 southbound. And I'm firmly convinced that the public transit will help matters quite a bit. I realize that MUNI Railway services are not always the best, especially when people have to take a crowded ballpark bus and then wait on a corner for a connector bus or take the ballpark express to BART someplace and then get on BART and have to ride again. I think the ease of one transportation system will help mitigate people. I do think it will increase attendance somewhat.

But on the other hand, I think it will also encourage people to take public transit. It's a better location. (Jim Wachob)

Since Highway 101 is the only major access road for Candlestick Park it would seem that their traffic problems would be far greater than the China Basin would ever encounter. China Basin has access from Highways 101, and 280 as well as direct access to Muni, Muni-Metro connection to Cal-Train and BART, and would be within walking distance from many downtown locations. (Assemblyman John Burton, California State Assembly)

Another aspect to the concern about traffic congestion in China Basin is the proximity of residential units to the stadium. Neighborhood groups from Potrero Hill, several long miles away, are complaining about traffic impacting their area. While I appreciate their concerns, I am appalled at the lack of awareness shown by virtually everyone over what has been happening in the Bayview Hunters Point neighborhood since the Giants and Forty Niners moved into Candlestick.

Anyone who has been to an average Giant game or, even more telling, to an average Forty Niner game, knows how badly the Hunters Point/Bayview area is abused by car and public transit bus traffic. Other than the northbound 101 offramp, there is no completely non-residential approach to Candlestick Park. On the contrary, residents of Hunters Point are subjected to hours of choking traffic jams on their streets and in front of their homes. (Richard Dyer)

The main concern with the transportation analysis is that it overestimates the effects of the new facilities as the trips generated by the existing stadium, Candlestick park, were not subtracted out from the demand projections. The stadium generates a substantial portion of the traffic especially at the South Bay Screenlines. (Susan Pultz, Metropolitan Transportation Commission)

Response

There is no direct adjustment in the quantitative transportation analysis projections that can be made to account for the net change between travel associated with Candlestick versus the proposed downtown ballpark/arena. That is because the year 2000 base travel projections do not include Candlestick-related trips; the travel analyses for the 1985 base year and projection years (2000 and 2020) are based on average commute days and do not assume special-event travel.

Nevertheless, for purposes of evaluating travel impacts of the proposed downtown ballpark/arena, it is relevant to provide some comparative analysis between the two locations. Due to projected changes in travel patterns associated with the downtown ballpark/arena (i.e., greater use of public transit during weekday afternoons in particular) as well as the simple fact that the downtown facility would have a smaller capacity than Candlestick's, there would be fewer auto trips emanating from the downtown facility than from Candlestick. Ballpark visitors to Candlestick generate more vehicle trips per person than would visitors to a ballpark in China Basin; should this pattern continue into the future, the result would be longer durations of congestion on the highway and bridge system than projected for the downtown ballpark/arena.

The downtown facility would have an additional advantage over Candlestick in terms of freeway access. Visitors leaving Candlestick, which does not have very convenient access to I-280 (South), generally utilize U.S. 101. This results in more potential for congestion and back-ups on U.S. 101 than if travel demand were more evenly distributed between I-280 and U.S. 101. The downtown ballpark/arena would have several access options to both I-280 and U.S. 101 in the nearby vicinity. This, together with a reduced vehicle travel demand (due to a higher percentage use of public transit), wider streets and extensive "grid" network of streets that offer many route options in the South of Market area, would yield fewer impacts to local streets in the China Basin

area, and highways and bridges than otherwise occur in the Bayshore - Hunters Point area. It is unlikely that there would be a need to reverse traffic directions on streets serving a China Basin ballpark/arena, as currently occurs around Candlestick Park. However, there would be more impacts on public transit carriers with the downtown facility than with Candlestick.

The fourth paragraph of p. 10 of the SEIR /25/ is deleted and replaced with the following paragraph to clarify and expand the discussion of relative impacts of Candlestick and the proposed downtown facility:

- It is important to note that contributions to cumulative impacts generated by a sellout event at the downtown ballpark would likely be substantially less than those generated by a sellout game at Candlestick Park. Due to the smaller capacity of the proposed downtown ballpark, better access to the regional freeway network, and greater availability of public transit options, the cumulative impacts presented herein would be less intense than those associated with Candlestick.

Comment

The EIR assumptions were extremely conservative, thereby not reflecting the reality of actual traffic and parking conditions associated with the operation of the facilities. For instance, the EIR supplement assumes that each car will only have an occupancy of 2.75 people per car whereas stadium and arena builders throughout the country use 3.2 people per car as a national standard. The EIR supplement's assumptions therefore greatly exaggerate the impacts in the scenarios. (Richard Morten, San Francisco Chamber of Commerce)

Response

The Comment is acknowledged. Data from survey results collected at Candlestick Park during football and baseball seasons indicated auto occupancy factors ranging from 2.75 to 3.12 persons per vehicle. To conduct a conservative analysis, the lowest rate was therefore used in the SEIR analysis. Were 3.12 persons per vehicle used instead, there would be almost 1,100 fewer vehicles generated by a sellout baseball game on a weekday afternoon, and about 1,800 fewer vehicles with the weeknight scenario evaluated in the SEIR.

Comment

Page 8, trip distributions. I couldn't understand. In 1981, there were 43 -- it's the percentages I don't understand. It's now 36 percent trip distribution and 16 percent from the East Bay, 10 percent from North Bay. (Commissioner Bierman)

Response

The distribution of trips to different parts of the Bay Area region (and neighboring communities) used in the SEIR is based on two sources of information. First, the existing trip patterns experienced at Candlestick Park for baseball games are described in surveys conducted in 1981 and 1988 and are indicated on Table 1 of the SEIR /26/. The second source of information shown in Table 1 is the theoretical analysis of the impacts of locating the ballpark close to downtown as was presented in the 1983 Stadium Feasibility Study. The 1983 Study used a mathematical model of travel behavior developed by the Metropolitan Transportation Commission (MTC) for social/recreational trips. The model uses travel times, auto ownership rates and household income as the key variables to predict where travel would be made.

The estimates of trip distribution presented in the SEIR combined the trip distribution projections for a downtown ballpark presented in the 1983 Study with the actual trends shown by the 1981 and 1988 surveys of baseball fans at Candlestick Park. For example, the impact of locating a ballpark closer to downtown San Francisco was found by the analysis conducted in the 1983 Study to produce a 4% increase in the proportion of fans coming to the ballgame from San Francisco. The increase from 34% to 38% in the proportion of fans based in San Francisco as calculated in the 1983 Study is used in the SEIR.

The most recent survey of fans at Candlestick Park found 36% of them were based on the Peninsula. The 1983 Study also projected the Peninsula as the origin of 36% of all baseball fans. The SEIR uses the results of both the most recent survey and the 1983 Study's theoretical projection for the share of fans coming from the Peninsula.

The 1983 Study indicated that there would be an increase in the proportion of fans coming from the North Bay. The results of the most recent survey indicate that the number of North Bay fans is actually decreasing slightly. Because the ballpark/arena at China Basin would be located somewhat more conveniently for North Bay fans,

the SEIR has assumed that the slightly downward trend for North Bay fans would be arrested because of the location of the new ballpark, and adopts the result from the most recent survey, 10%, as the share of fans expected to come from the North Bay.

The 1983 Study projected a slight increase in fans coming from the East Bay as compared with the 1981 survey (11.6% growing to 13%). The most recent survey indicates that there has been an increase in fans from the East Bay who go to ball games at Candlestick Park which was even greater (11.6% growing to 20%) than the increase projected in the 1983 Study. The SEIR uses 16% for the share of fans coming from the East Bay. This figure assumes greater growth from the 1981 survey than was projected in the 1983 Study but results in an East Bay share somewhat less than the results of the 1988 survey.

In summary, the SEIR relies on the theoretical projections of trip distribution developed in the 1983 Study for a downtown ballpark to the maximum extent possible. Where more recent survey information appears to contradict the earlier projections, the results of the 1983 Study have in most cases been modified to reflect the updated survey information.

Comment

Figures for all four regions on Table 3, page 11, should be totalled. (Gary Adams, Caltrans, District 4)

Response

The trip estimates presented in Table 3, on p. 11 of the SEIR /27/, cannot be directly totalled by regional distribution, because the numbers are not expressed in a common denominator. "Public Transit" and "Other" trips are represented in terms of person trip ends, while "Vehicle" trips represent vehicle trip ends with an assumed 2.75 auto occupancy factor. However, the total number of vehicle and person trip ends by mode for each of the two event scenarios is added to Table 3, so that a comparison of total trips is more readily identified. This new column, "Total," appears to the right of the "North Bay" column.

For the "Weekday" scenario, the totals added to Table 3 for the modes are:

- Vehicle - 9,110
- Public Transit - 10,750
- Other - 6,190

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For the "Weeknight" scenario, the totals added to Table 3 for the modes are:

- Vehicle - 15,090
- Public Transit - 6,850
- Other - 3,650

Comments

Now I want to get to the issues of the traffic and the parking. That's what we're here tonight for, right?

All I have to say to that is, I don't get it. I don't get it at all. All you have to do is walk out this building, walk down to Market Street and take a look. The first thing you will see is that the entire street is being torn up. I don't mind this, even though it's costing millions of dollars, because they're doing it to improve the City.

Now, keep on walking down Market Street toward Ferry Building. The further you get into the Financial District, especially south of Market, the first thing you'll notice is cranes and construction. Now, you'll keep on building ugly skyscrapers that are ruining the skyline. Not only that, they're bringing in thousands of people each and every weekday. Where do you think they are going to park? You don't think that's bringing in traffic?

And that's not the end of it. We already have skyscrapers that are ugly enough that haven't been leased out, but we're building new ones. Now, the same people who are doing this won't build a downtown ballpark that will be used 81 times a year, and most of those times will be week nights and weekends when nobody is going to be working down there anyway. (John Flanagan)

I have a record of having voted against perhaps half of the highrises. Probably not, I'm probably not that courageous. But I have certainly voted against eight or ten million square feet of office space on the basis that we have never had anything in any EIR's that to me show that the transit system in the next ten to fifteen years can comfortably carry the people who we are going to put in the downtown highrises. The figures on -- it totally depends on government money, state money and federal money in our past EIR's when the other part of that is the street traffic. I am on record as saying that . . . I mean, over . . . in 12 years. And as much as I know you all, and maybe I, you all desperately want a stadium. I may go for the stadium. But to have -- well, it's one, two, three, four, five, six, seven intersections that go to Level F from none -- I'm looking to see. Well, three to four, there are three that have

Level F. That's a very serious, heavy situation. I will discuss it further when we get to how it's solved. (Commissioner Bierman)

Response

These Comments address future land use policy decisions for the proposed ballpark and arena sites. It should be noted that neither the ballpark nor arena is being considered for approval or denial at this time.

The environmental analyses in the SEIR provide only part of the impact information necessary to make an informed decision on the proposed ballpark/arena. As stated on p.1 of the SEIR /28/ and in the notice advertising the SEIR public hearing, the SEIR does not constitute an EIR on the ballpark and arena. The City must have a feasible financial program for the proposal and a preliminary design for the facilities in order to pursue an environmental evaluation that assesses its associated environmental impacts in detail, thus providing the necessary input to make an informed decision on the ballpark/arena. For now, the purpose of the Draft SEIR is to consider additional contributions to cumulative impacts from a ballpark and arena in the context of considering approval of Master Plan amendments and a development agreement for Mission Bay. To the extent that cumulative analyses can reasonably identify where operating levels at local intersections would deteriorate, they have been evaluated. (See also pp. XV.Q.38-XV.Q.45 for additional information on local traffic impacts.)

Mode Splits / Shifts

Comments

Clearly, the EIR focused on the worst case scenarios, as other people have stated, which will never occur. And still the report itself indicates that most traffic operation improvements could be low cost and implemented on a temporary basis.

Like many others, I look forward to walking from my office to a night game or taking a short ride on a MUNI bus to a Saturday afternoon game. (Anne Wilson)

. . . There's no incentive for taking MUNI out to Candlestick. I think you're underestimating the number of people who will take MUNI if it's accessible to the ballpark. The only way you can get there now is the ballpark special which costs \$4. That's what it costs to park. Who's going to take MUNI? . . .

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I just want to say that I would ride MUNI. I know there are lots of people who would take it or walk. I can't walk through Hunters Point at night. So just consider that there will be a lot more people taking it than I think you are estimating right now. (Sherry Davis)

I think that issues with regard to parking and traffic in the report that I have read are slightly exaggerated. I think, one, the problems of traffic have to be dealt with through other commissions. We have the PUC, we have the Parking Authority, and other things that can deal with those situations. Not only that, we have the other issues of, even if we build the stadium and we improve our transit, are we going to change our own lifestyles and get out of that car that we came to this meeting in? I think that that's a personal thing and we can't legislate that. I think that we have to take that responsibility. We have to make sure that we strike a balance between what is good for San Francisco and good for ourselves as individuals. And the quality of life starts with ourselves.

I think that parking is a dramatic problem in San Francisco. But that can only improve through education and commitment on the part of individuals to get out of the car and for the city government to increase transportation needs to meet the needs of the community. That can only also be accomplished by density in housing. I firmly believe that in all major metropolitan cities throughout the world where you have successful transit systems, it is based on density of housing, mixed usage, such as in the Mission Bay project. I think that that is what is needed in this City. We have to strike a balance between those concerns of the community and also the environment. (Arnold Chin)

[On] Page 9 [the Draft Supplement states:] "Table 2, The Scenario that weekday public transit use will increase from 5.0% to 26%" is pure speculation.

The fact that it's based on the assumption that the supply of parking spaces is reduced makes it even more implausible.

[On] Page 19 [the Draft Supplement states:] "visitors could find parking within a 15-minute radius walk (a distance of about three quarters of a mile) from the stadium facilities. This is possible if attendees coming to the stadium travelled at the higher transit mode shares assumed in the analysis: about 40% by transit or other non-automobile mode."

Good Luck! 40% transit or walking given the attendee profile is impossible. 65% (at least) come from out of town. They will bring a car regardless, and park where it is convenient. (Jack Moore, Potrero League of Active Neighbors)

. . . [With] the greater availability of public transit downtown . . . it's logical to assume there would be a greater percentage of China Basin fans not using cars than is currently the case with Candlestick fans. (Richard Dyer)

The projections for public transit use seem unrealistically low. With a seating capacity for the stadium and the arena of 65,000 and immediate available parking spaces of only 5,000, higher transit use seems inevitable. The document also indicates that within a one mile radius of the project, 58,600 on and off street parking spaces are available, a high percentage of which will be occupied during the weekday, 85% (p. 17). Therefore, the report should emphasize the importance of major new additions to the public transportation network. (Gary Adams, Caltrans, District 4)

It would appear that Table 3 is understated generally, and grossly understated in terms of public transit trips, particularly in the San Francisco and South Bay corridors. (Dehnert C. Queen, Small Business Bowl)

It seemed obvious the impact the loss of professional baseball would have on San Francisco, not only from an entertainment standpoint, but just as importantly, the business and related City Image. What seemed less obvious, was the importance of a Stadium, and indeed any facility that is going to draw a large crowd, to be located near major Public Transit and Highway corridors. San Francisco is both of these in the Bay Area. In fact it is the Hub of all Public Transit. While many have pointed out the problem with traffic now in the south of Market Area, no one acknowledged that even without any further building, traffic will continue to get worse.

I feel very strongly, the time will come when only the most fortunate (read \$\$) will use autos and the rest of us will be forced to rely on Public Transit to get around metropolitan areas. The last thing the Bay Area needs is another Candlestick, that is to say a facility that is not transit friendly. San Francisco, and indeed the Bay Area at large, needs to be encouraged to get out of their cars and use convenient Public Transit. After all, the number one polluter in the

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Bay Area air quality, is automobile exhaust. Obviously the planning commission must take into consideration automobile traffic, just don't be blinded by them as the only form of Transit. (Bruce Mayfield)

As a small-business man and a native of San Francisco, the Environmental Impact Report on the highly exaggerated parking problem in the new downtown ballpark is totally out of line. Parking and traffic can be minimized and public transportation can be increased with the new downtown arena complex. With public transportation, kids from all over the City, even kids from the East Bay and South Bay, can have easy accessible transportation to all ball games in San Francisco. I think with the Metro and MUNI and BART and the incredible network of all the outlying communities, I think you can have a giant impact on the future of a downtown stadium. (Norman Dudum)

Response

The increase in transit use from the 5% currently experienced at Candlestick Park to 26% as estimated for a sold-out weekday game at the ballpark at China Basin is based on several factors. The limit on the supply of parking is an important determinant of modal split, but several other factors also need to be considered.

A second significant reason that transit use at a China Basin ballpark would be greater than the typical existing use at Candlestick Park is the far-superior transit service which would be available at China Basin. A comparison of direct transit services which would be available at the China Basin ballpark with those now offered at Candlestick Park is shown in Table XV.Q.1. These services would be in addition to BART and AC Transit service to nearby Market Street or the Transbay Terminal.

Transit use to downtown or in-town ballparks is far greater than transit use to suburban or fringe-area parks throughout the country. For example, cities with centrally located ballparks with a tradition of transit use include:/29/

- Chicago (Wrigley Field) - 35% transit (day); over 50% transit (night)
- Cleveland - 54% transit
- Atlanta - 35% transit
- Pittsburgh - 30% transit

On the basis of the high level of transit service which would be available and on the limited supply of parking, it would be expected that a

ballpark at China Basin would attract transit users as other in-town ballparks do throughout the country. The low record of transit service and use at Candlestick Park is comparable to that at other fringe-area or suburban ballparks where transit service is poor. See also Responses on pp. XV.Q.45-XV.Q.51 under "Parking" regarding parking impacts.

Comment

[On] Page 9 [the Draft Supplement states:] "For stadium sellout weekday events, when parking is limited, auto use would have to be reduced to about 59% of total trips in order for parking supply to accommodate parking demand."

There is no way to enforce a reduction in auto use. There will be gridlock after every daytime game, weekday or weekend. . . .

[On] Page 21 [the Draft Supplement states:] "However, over the long run, limited parking resources are likely to result in shifts to greater use of public transit or other non-automobile modes."

How can you statistically justify this assumption? Where is the model that this statement is based on? (Jack Moore, Potrero League of Active Neighbors)

Response

The relationship of parking availability and/or parking costs to the use of transit is readily apparent. Transit use is always greater in those areas where parking is scarce or expensive than it is in areas where parking is convenient and cheap. The most obvious example of high transit use in the Bay Area is downtown San Francisco. Downtown San Francisco is also the area where parking is least available and most expensive.

Examples of the impact of limiting parking and the use of transit are available throughout the Bay Area. In Marin County, for example, where transit service is poor, the only significant transit destination is the College of Marin. The college is also one of the very few areas in Marin where parking is not readily available.

A theoretical explanation of the relationship of parking supply and transit use is provided in the modal split models used by transportation planners to estimate transit use. The 1983 Stadium Feasibility Study used the mode choice component of the MTC social/recreational travel

TABLE XV.Q.1: COMPARISON OF POSSIBLE TRANSIT SERVICES AT CHINA BASIN TO CURRENT TRANSIT SERVICES AT CANDLESTICK PARK

<u>China Basin Ballpark</u>		<u>Candlestick Park</u>	
<u>Regular Service</u>	<u>Possible Special Service</u>	<u>Regular Service</u>	<u>Special Service</u>
MUNI Metro Rail	MUNI Metro Added Rail Cars as Needed	None	MUNI Ballpark Specials (Diesel Bus)
MUNI Bus Trolley 30-STOCKTON	MUNI Ballpark Specials (Trolley Coach and Diesel Bus Services)		
Diesel 15-THIRD 32-EMBARCADERO 42-DOWNTOWN LOOP 76-MARIN HEAD- LANDS 81X-SANSOME EXPRESS	Golden Gate Transit Bus Specials SamTrans Specials		
CalTrain Rail	CalTrain "Ball Game Specials"		
	Ferry to East Bay and North Bay (provided by Golden Gate Ferry and/or private operator)		

SOURCE: Robert L. Harrison

demand model to estimate the sensitivity of modal split to changes in parking cost. The results of the sensitivity analysis, as shown in Table A-4 on p. 4-67 of that report, were that if the cost of parking at a football game in a downtown stadium were doubled, the use of transit would increase by 43%.

The availability of parking would be an even stronger factor in modal choice than would be the cost of parking. If parking is simply not available, people would either not make the trip or would switch to an alternative travel mode.

Transit Assumptions

Comments

Further on that page, it talks about: New direct increased regional transit service for stadium arena events would be provided by SamTrans, Golden Gate Transit and CalTrain.

Now, in our previous EIR's, we have pretty much had what those agencies are planning and their funding difficulties, state funding difficulties and federal, as to what they can provide. So, have

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these agencies been consulted as to their ability to add service if we are saying in this document that they would need to? Do they have that ability? (Commissioner Bierman)

I have been working almost where the proposed stadium will be located and I can truly state that I believe you were in fact overly optimistic about how to "mitigate" the traffic impact on the area.

Where are all the automobiles going to park there? If you say that people will use other forms of transportation, when will such other forms be in place and at what cost to whom? (Arthur Behnick, Automobile Procurement Corporation)

Further some of the mitigating methods that are noted in the report clearly will not be adequate, such as use of traffic police and barricades. These will not lessen congestion, they will only further degrade life for the South of Market residents and business people. (Toby Levy, South Park Improvement Association)

Response

Traffic mitigation measures are discussed in more detail in the first five Responses under "Transportation Mitigation," on pp. XV.Q.51-XV.Q.54. It should be noted that the identified mitigation measures are primarily traffic circulation alterations to keep traffic moving, and avoid back-ups and long delays at intersections. The transportation analysis is not intended to imply there would still not be an increased number of cars and traffic associated with ballpark/arena activities in the area.

Not all people attending ballpark/arena events would necessarily park at the facility sites. As indicated in the SEIR analysis, people would likely park within a 15-minute walking distance from either of the two facilities. The result of this expanded parking area is to disperse the corresponding traffic impacts over a larger area than the immediate vicinity of the ballpark and arena sites. Further details about the anticipated parking supply are presented under "Parking" in the Response on pp. XV.Q.47-XV.Q.49.

The analysis was conducted primarily for a year 2000 time horizon. By that time, it has been assumed the MUNI Metro extension to the Mission Bay area, widening of King Street, and the urban design and roadway improvements along The Embarcadero will have been completed. These projects have received preliminary funding approval as part of the 1-280 Transfer Concept Program (TCP).

The introduction of direct service to the ballpark and arena sites on SamTrans, MUNI, Golden Gate Transit, and CalTrain is included as part of the ballpark/arena proposal. Generally, this type of special service, unlike regular scheduled service, is supported primarily through user fees, thus minimizing operation costs to the carrier. There may, however, be residual costs for such transit service that require negotiation if a ballpark/arena is ultimately approved.

Regional transit operators have provided special services to many sports and other events around the Bay Area. CalTrain provides service to a station platform constructed just to serve the Stanford Stadium on Saturdays when there is a football game there. CalTrain also serves Bay Meadows Race Track during the racing season at that track.

Golden Gate Transit has served 49er games at Candlestick, the Olympics at Stanford University and rock concerts in the Oakland Coliseum. There is considerable precedent for the regional operators to provide service to major sports and other special events.

In light of current and past practices for the provision of supplemental transit service, it is reasonable to expect that such arrangements would be implemented as part of the ballpark/arena development. Transit operators generally have indicated a willingness to provide additional service in response to demand. A detailed plan and design for this project would be subject to additional future environmental review, wherein a more detailed evaluation of transit service to the facilities would be included.

Between now and 2000, it is expected that local and regional public transit service would increase in varying degrees, regardless of the outcome of a decision on the ballpark/arena facilities. In the Mission Bay EIR, pp. VI.E.56-VI.E.59 of Volume Two, VI.E. Transportation, and pp. XIV.E.21-XIV.E.26 of Volume Three, Appendix E, as well as the Response on pp. XV.E.37-XV.E.38, explain the rationale for the "reasonably assured" transportation improvements assumed in the cumulative analyses. Pages C-30-C-38 in the South of Market EIR Appendix provide similar information. Briefly, the main basis for assuming some amount of increased transportation capacity is derived from stated service improvement objectives and goals adopted by each transportation agency, and/or confirmed by the staff of each agency. The funding process for those improvements is carried out through the region's Metropolitan Transportation Commission.

Comment

. . . [T]he supplement makes reference to potential increased passenger rail service by CalTrain to serve the stadium on game days. The supplement should note that CalTrain's peninsula corridor is a joint-use (passenger and freight) rail corridor. A significant amount of planning is currently underway to insure that the delicate balance between passenger and freight use of the corridor can be maintained as commuter traffic increases. A major premise is that freight use can be promoted in the off-peak commuter hours, including evenings and weekends. Special stadium-oriented passenger trains may upset that balance and disrupt adequate freight access to all of San Francisco's marine terminals.
(Richard J. Wiederhorn, Port of San Francisco)

Response

The Comment is correct: the Peninsula rail service is a joint passenger and freight use corridor. The analysis conducted to date indicates that the CalTrain service to the ballpark/arena would not substantially change the current schedules for passenger service to the Peninsula. For service to the ballpark/arena, the lengths of certain existing trains could be increased and a limited number of new special trains could be added to existing schedules to respond to demand. It is not possible to develop precise schedules for the Peninsula rail service at this time, but it is possible that the added trains could be scheduled to operate within the existing passenger service schedule envelopes and not interfere with the potential freight service schedules.

The need to recognize that both freight and passenger service must be provided on the Peninsula would be an important criterion when specific schedules for rail service to the ballpark/arena are developed.

Transit Impacts

Comments

[On] Page 14 [the Draft Supplement states:] "Table 5, On a weekday game up to 68 buses and 29 railcars are needed; on a weeknight game up to 44 buses and 19 railcars are needed."

Are these buses and railcars being diverted from other routes? If so, which routes? Are these buses and railcars newly acquired? If so, by whom and for how much? . . .

[On] Page 14 [the Draft Supplement states:] "Scenario One would require the equivalent amount of personnel and service provided by about 68 buses and 29 Metro railcars."

Who pays and how much? (Jack Moore, Potrero League of Active Neighbors)

A new table showing transit supply, the number of buses/railcars and their capacity projected to be available for stadium/arena service in year 2000, would be beneficial as a comparison with transit demand in Table 5, page 14.
(Gary Adams, Caltrans, District 4)

Response

The estimate of transit capacity which would be needed to serve the ballpark/arena, as shown on Table 5 on p. 14 of the SEIR /30/, is meant to be an example of the scale of transit service required and not a precise plan for providing the needed services. The exact amount of service which would be available in 2000 between 3:00 and 4:00 p.m. and between 6:30 and 7:30 p.m. is not known at this time, because transit providers cannot set service schedules this far in advance (particularly for off-peak service).

For comparison purposes and to put the requirements of the ballpark/arena into scale, it is interesting to compare the estimates of transit service needed to serve the two sports facilities with the transit capacity provided to the China Basin area in 1989. This comparison is shown in Table XV.Q.2.

Because of the increased development in the China Basin area, it is expected that current service levels would be increased by 2000 on most MUNI routes there. An exception is the Route 32-EMBARCADERO, which would be discontinued when the Metro is extended to China Basin and the F-line is extended to Fisherman's Wharf.

None of the buses or rail cars needed to serve the ballpark/arena would be diverted from other routes. At the mid-afternoon and early-evening (off-peak) hours of the event scenarios evaluated in the SEIR, all transit operators would have considerable unused capacity. There would be no need to purchase new vehicles in order to serve the ballpark/arena, even assuming sellout crowds.

The MUNI Metro would be extended to meet CalTrain and to serve the Mission Bay project independently of the ballpark/arena project. Current plans suggest that about half of the

TABLE XV.Q.2: CURRENT TRANSIT SERVICE TO CHINA BASIN IN 1989 VS. YEAR 2000 REQUIREMENTS OF THE BALLPARK/ARENA

Equipment in Regular Service in 1989/a/

	<u>3:00 - 4:00 p.m.</u>	<u>6:30 - 7:30 p.m.</u>
MUNI Trolley Coaches and Buses		
15-THIRD	12 buses	8 buses
30-STOCKTON	10 coaches	10 coaches
42-DOWNTOWN LOOP	6 buses (artic.)	6 buses (artic.)
32-EMBARCADERO	5 buses	None
Total Buses	33 buses	24 buses
MUNI Metro Rail Cars (Market Street)		
	60 rail cars	50 rail cars
CalTrain	6 rail cars (2 departing trains)	9 rail cars (3 arriving trains)

Requirements of Ballpark/Arena, 2000

	(Scenario One)/b/	(Scenario Two)/c/
MUNI Buses	68 buses	44 buses
MUNI Metro	29 rail cars	19 rail cars
CalTrain	7 rail cars	4 rail cars

/a/ Vehicle requirements based on published schedules.

/b/ Weekday ballpark sellout.

/c/ Weeknight ballpark sellout and 50% arena use.

SOURCE: Robert L. Harrison

Market Street subway service would continue to China Basin. On event days, additional trains could be through-routed to meet projected demands from the ballpark/arena.

The additional MUNI bus service needed to serve the ballpark/arena could be provided by added service on regular routes, as is currently done to serve peak-hour loads, and by running of "Ballpark Specials," as is currently done to serve Candlestick Park.

Although there would be no requirement for the purchase of additional buses or other transit vehicles, there would be an increase in operating expenses for providing special service to the ballpark/arena. The cost of operating services for special events is customarily included in the overall budget for the Municipal Railway. The operating deficits of existing Ballpark Specials

are paid for by MUNI. Fares for Ballpark Specials are set by MUNI so that operating deficits are minimized. Special service to the ballpark/arena at China Basin would probably be handled in a fashion similar to the current policy at Candlestick Park.

Additional discussion regarding the provision of transit service to the ballpark/arena is presented in the Response in the right-hand column on p. XV.Q.54.

Comment

*On page 14, Table 5, the Caltrain information should be corrected to read as follows:
Weekday: Railcars 7, Weeknight: Railcars 4.
(Gary Adams, Caltrans, District 4)*

Response

The Comment is correct. Table 5, on p. 14 of the SEIR /31/, is revised in the following way.

For the "Weekday" scenario, the number of railcars for "CalTrain" under "Transit System" is changed to:

- 7

For the "Weeknight" scenario, the number of railcars for "CalTrain" under "Transit System" is changed to:

- 4

Comment

The one other thing I was trying to point out, and I don't think I did, because of all the highrise increase in the City, the figures for transit and for availability of transit all made note that people will be standing at the peak hour all the way to Walnut Creek, and very crowded conditions already. And I have not seen any figures that say it's going to get that much better. The report does not talk about comfort or not comfort to people going. A lot of these people come from the East Bay, and if you want them to come on transit, how do [you] expect them to get out of their car if they're going to have to stand from Walnut Creek, Concord and from the south. None of that really appears at all in this document. There is nothing about overcrowding of the existing transit. (Commissioner Bierman)

Response

Although transit demand generated by activities at the ballpark/arena has been estimated, it is not possible to describe specifically future comfort levels on different transit providers at this time. That is because the main impact of ballpark/arena activities on local and regional transit carriers would not directly coincide with the peak service periods of those carriers; for most carriers, transit schedules determining transit service levels during off-peak periods (outside the morning and afternoon commutes) have not yet been defined for year 2000. As described under "Event Times" on p. 10 of the SEIR /32/, most fans would depart from the ballpark following a ball game around 3:00 p.m., before the defined commute period (4:00-6:00 p.m.) begins. Without a definition of the level (supply) of transit service provided before 4:00 p.m., comfort levels cannot be determined.

It is possible that transit lines, particularly those serving the East Bay, could operate at low comfort levels before 4:00 p.m. as a result of additional passengers generated from ballpark/arena activities. In the EIRs, the cumulative transit ridership projections from 4:00-6:00 p.m. to the East Bay (see pp. VI.E.94-VI.E.95 of the Mission Bay EIR, Volume Two, VI.E. Transportation, or p. 115 of the South of Market EIR) indicate passenger comfort levels would be poor or very poor (Levels of Service E or F). Due to those conditions, commuters may choose to alter their times of travel. To the extent they leave earlier from the downtown area, and if transit service levels continue to be substantially below the carrying capacity provided during the peak commute hours, passenger comfort conditions during pre-peak periods (e.g., 3:00 p.m.) would be aggravated by the addition of new passengers generated from ballpark/arena events.

More detail on ridership conditions during off-peak times associated with additional passenger demand generated by ballpark/arena activities is properly within the scope of a separate environmental impact evaluation, which would be conducted for the ballpark/arena if a detailed program for that proposal is pursued by the City.

CalTrain

Comment

Specifically, with regards to Caltrain, this document assumes incorrectly that Caltrain can survive a move of its terminal station from 4th and Townsend to 7th and Channel. Since it makes this assumption, it doesn't address the environmental impacts of major increases in traffic that would be caused by the project, if it were built without the existing level of train service.

According to City-commissioned studies, movement of the station would cause Caltrain to lose 30% of its San Francisco riders (23% if MUNI Metro is extended to the new station). This would cost Caltrain an additional \$1 million annually in fare revenue. The state has also estimated that the move would be so operationally problematical that it could add 10%, or 2.5 million, to annual operating costs. At a time when the existing service is struggling to achieve its legislatively required 40% farebox recovery ratio, a huge drop in fare revenue, coupled with a similarly significant increase in costs, would have a negative impact on the train

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system. A scenario which predicts that the trains will be available to serve the needs of commuters, let alone stadium event-goers, is highly optimistic. The report should therefore describe impacts of complete elimination of the trains. (Gary Adams, Caltrans, District 4)

Response

If there were no CalTrain service, the 900 trips projected for CalTrain for the weekday scenario and 560 trips projected for the weeknight scenario would have to be accommodated on other modes of travel serving the Peninsula. It is estimated that about 25% of the displaced CalTrain trips would be made on either SamTrans or BART, with the remainder of the trips made in private vehicles. After taking auto occupancy ratios for stadium/arena attendance into account, it is estimated that about 250 additional vehicle trips would be generated by a sellout baseball game on a weekday afternoon, and about 150 additional vehicle trips from the weeknight scenario evaluated in the SEIR. Either of these trip scenarios would incrementally worsen congestion levels projected for U.S. 101 and/or I-280 (less than 1-2% increase if these trips occurred during the peak period).

Comments

Please refer to the attached copy of San Francisco Board of Supervisors Resolution No. 594-88, particularly the parts which are highlighted (on pages 2 and 3 of the resolution and page 2 of Attachment A thereto). Note that it states that the Board of Supervisors endorses the new rail starts and improvements program of the Metropolitan Transportation Commission (MTC), a major element of which is "Extend Peninsula Commuter Service from Fourth and Townsend streets to a Downtown Terminal . . .", and adopts it as ". . . City policy, superceding all previous policy resolutions on regional rail starts and expansions . . ." Therefore a previous resolution stating an interim terminal at Seventh and Channel Streets would be acceptable under certain circumstances is null and void, and was so at the time this draft supplement was written. Resolution 594-88 was approved by the Mayor on July 28, 1988 - in ample time for the writers of this draft supplement to have been aware of it and to have written a draft supplement based on assumptions that are in accordance with City policy as stated in this resolution.

Therefore, this draft supplement will have to be rewritten using assumptions that are in accordance with a clearly stated City policy. Valid assumptions would be with the Caltrain line terminating at the present Fourth and Townsend Station, or with it terminating downtown, at or near Transbay Terminal (as stated on page 2 of Attachment A to Board of Supervisors Resolution 594-88). Note that in the latter case there would be a station in the Mission Bay project area at or near the location of the present terminal. (Norman Rolfe, San Francisco Tomorrow)

It should be noted that Mayor Agnos' plan for "temporarily" relocating the CalTrain station to Seventh and Channel streets would effectively kill operation of CalTrain. Furthermore, relocating the CalTrain station to 7th and Channel streets would mean that Giant's fans would have to walk or take a bus to the 2nd and King street stadium, perhaps incurring additional fares and lost time. (Dehnert C. Queen, Small Business Bowl)

It would be nice to think that the Mission Bay project would actively support the upgrading of CAL TRAIN to a full time transit service (instead of its present commute operation), and the undergrounding of the tracks from south of 16th Street to a true downtown terminal. This would probably have some benefit for the adventuresome among the peninsula baseball fans, yet this project is probably more likely to be realized than some of the very rosy projections for other public transit use by fans. (Richard H. Moss)

On behalf of the Peninsula Corridor Joint Powers Study Board, I would like to suggest that it is important to recognize that an EIS/EIR presently in progress will recommend the ultimate location of a San Francisco terminal for the Peninsula Commute Service (PCS). We expect a draft product in early 1990.

We note the continued assumption in the subject document that the PCS terminal will be relocated to Seventh and Channel. This assumption, and failure to incorporate the possible relocation of the Fourth and Townsend terminal to a downtown site, may be detrimental to the stadium/arena planning process.

Since the ultimate location of the PCS terminal is pivotal to the stadium/arena transportation element, we will be sure to coordinate with your office as the EIS progresses. (James A. Gallagher, Peninsula Corridor Study Joint Powers Board)

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Response

Statements made by one commenter regarding Board of Supervisors adoption of Resolution 594-88 are noted and are acknowledged in the Mission Bay EIR via text amendments given in XV.E. Transportation, pp. XV.E.27-XV.E.29. However, the intent of the analyses in the SEIR is to evaluate potential additional cumulative impacts of a ballpark/arena in a manner that is comparable to the base impact analyses in the Mission Bay EIR. As a result, the supplemental analysis continues to incorporate an assumption that the CalTrain station would be relocated to Seventh and Channel Streets.

The reason the assumption for the CalTrain station location was not changed in the base analysis is because the Mission Bay EIR does already provide a discussion of the ridership implications of retaining a CalTrain station at Fourth and King Streets instead of Seventh and Channel Streets. As explained in the Response on pp. XV.E.27-XV.E.29, Variant 9 (CalTrain Station Location), a variant to the base transportation impact analysis, on pp. VII.51-VII.54 of Volume Two, Chapter VII. Variations on Alternatives, discusses the potential difference (improvement) in ridership that could be expected by retaining a station at Fourth and King Streets, compared to the Seventh and Channel Street station.

In order to accommodate the land use programs analyzed in EIR Alternatives A and B, a station at Fourth and King would have to be constructed underground. A station at Fourth and King would be more centrally located to both the proposed ballpark and arena sites, although the Seventh and Channel location would provide direct service to the arena site. Providing an underground station at Fourth and Townsend would leave the option open for using it as the terminus for CalTrain, or as a waystation for a CalTrain extension to downtown San Francisco. Although the Board has stated its support of the latter in Resolution 594-88, that issue is subject to a separate planning and environmental review process currently being carried out by the Peninsula Corridor Study Joint Powers Board.

Comment

CalTrain/BART Extension EIS. The "Project/Political History" document (#4b), in conjunction with the balance of the enclosures raise significant arguments in opposition to the proposed extension of CalTrain to the TransBay Terminal and BART to the SFO Airport. These arguments, and the highly questionable, if not illegal, practices reported in depth in these

documents should result in the joint JPB/UMTA EIS being significantly updated via additional public meetings prior to the preparation and distribution of the Final EIR. (Dehnert C. Queen, Small Business Bowl)

Response

Debate regarding the route alternatives considered for an extension of CalTrain service to downtown San Francisco is not the focus of this environmental review. Comments on this topic will be addressed in the context of the Peninsula Corridor Study Joint Powers Board planning and Environmental Impact Statement (EIS) process, which ultimately will provide the basis for making a recommendation on the future of CalTrain service. That committee should be consulted regarding future public meetings on the project or its EIS.

Travel Demand

Comments

Under the Background section, page 7, the project assumes that a specific transportation network is in place, including State and local roadway and transit improvements. Because most of these projects are long range and cannot be assured funding, the document should identify the environmental impacts, should the "worst case" happen. (Gary Adams, Caltrans, District 4)

Given the analysis in the DS assumes the major expansion of the city and regional transportation network, what are the environmental impacts of the proposed stadium and arena projects in the immediate vicinity of these projects if none of these expansion projects are implemented? (John Bardis, Inner Sunset Action Committee)

Response

A similar comment from CalTrans is addressed in the Response on pp. XV.E.37-XV.E.38 regarding assumptions of future transportation improvements. The Mission Bay EIR transportation technical appendix (Volume Three, Appendix E, pp. XIV.E.21-XIV.E.26), and Appendix C of the South of Market EIR (pp. C-30-C-38) explain the reasons for assuming some future transportation improvements, while acknowledging that the short-term cycle of the region's transportation funding process precludes the ability to determine at this time which improvements would be funded and built for the forecast years (2000 and 2020). Because the cumulative transportation analysis

is a long-term forecast, it was believed some assumptions about future transportation improvements were necessary in order to produce a somewhat realistic forecast of impacts. It was not believed that growth in travel demand would continue to occur in the absence of any type of improvement.

Nevertheless, the Mission Bay and South of Market EIRs do provide comparative information in the form of estimated durations of congestion at freeway screenlines in San Francisco that reflect theoretical travel conditions if no transportation improvements were implemented. On the Golden Gate Bridge, the congestion period could last for four hours in year 2000, compared to two hours if transportation improvements were in place. For the Bay Bridge, congestion could occur for about 5.5 hours instead of 4.5 hours. Congestion on U.S. 101 to the Peninsula is projected to occur for about three hours. Those theoretical durations of congestion would be lengthened incrementally by additional trips generated from the ballpark/arena. While these estimates may be interpreted by some to represent "worst-case" impacts, they are not considered by the EIR preparers to be a reasonably likely analysis.

Comment

All figures in the document depicting the configuration of the proposed King Street ramps show the on-ramps at the outside (west of) the 6th Street ramps. At a meeting between Caltrans and the City of San Francisco on May 27, 1988, it was agreed that the alternative with the King Street on-ramps would be located on the inside of the 6th Street ramps. Caltrans is proceeding with the environmental document based on this agreed upon alternative. (Gary Adams, Caltrans, District 4)

Response

The ramp configuration depicted in the SEIR graphics is based on a base map that was developed prior to the point when Caltrans and San Francisco agreed on a final design. As a result, the EIR graphics should be considered schematic and would in no way override the detailed design and engineering work prepared by Caltrans and the San Francisco Department of Public Works. The relatively slight differences in the current ramp design (as of October 1988) would not result in any change to the impacts as analyzed in the EIR.

Local Traffic Impacts

Comment

Page 18. Would you please just figure out a way to enlarge this map so we can see street names, because there is no way of knowing what this means. The same with page 20. I couldn't find one -- I'm older, but my eyes could not find one street that was identifiable. (Commissioner Bierman)

Response

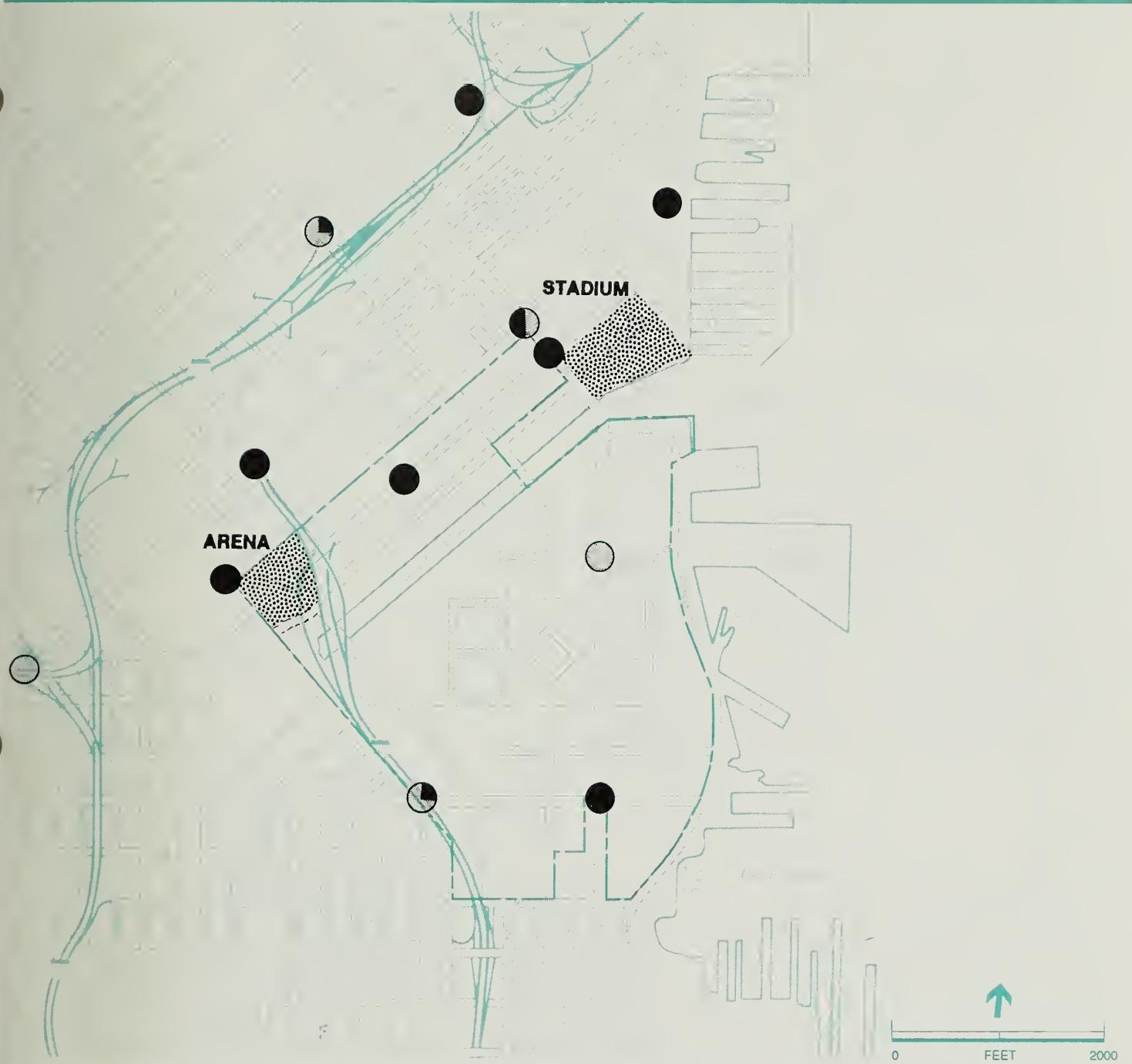
The base map is modified to indicate clearly street names in and around the sports facilities. Figures 2 and 3, pp. 18 and 20 of the SEIR /33/, respectively, are reproduced and included in this Response.

Comments

. . . The first and most troubling [aspect of the SEIR] is the inference that street traffic gridlock would only occur at infrequent times when the proposed stadium was filled to capacity and other remote occurrences took place. This is not just my characterization of the findings contained in the Draft Supplement, but it was the well publicized position of the Mayor and other stadium supporters.

It is easy to refute this error. Anyone can now go to Second Street, between Harrison and King on any Thursday or Friday - and frequently other days of the work week - and find near gridlock between the hours of 4 PM and 7 PM. This is without any traffic coming to a stadium, or looking for parking, or trying to access the housing now under construction in the near vicinity. Add any of the above, plus a stadium, to the existing situation and the hours of gridlock may extend from 3 PM to 9 PM.

Likewise traffic on the Embarcadero, Townsend, Bryant, Harrison, First, and several other streets in the vicinity of the Bay Bridge entrance are already at near stand-still without the addition of thousands of cars trying to find parking for a downtown stadium. I believe it is the [responsibility of the] Draft EIR to accurately describe this existing situation and the actual likely impacts of the stadium. There should be no doubt or qualification that would suggest that the normal likely situation would be anything but disastrous. (Richard H. Mass)



MISSION BAY BOUNDARY

- LEVEL OF SERVICE C OR BETTER
- ◐ LEVEL OF SERVICE D
- ◑ LEVEL OF SERVICE E
- LEVEL OF SERVICE F

Mission Bay

SOURCE: Environmental Science Associates, Inc.; Barton-Aschman Associates, Inc.; and Robert L. Harrison

FIGURE 2
**INTERSECTION OPERATING LEVELS BEFORE OR
AFTER EVENTS AT THE STADIUM AND ARENA**



NOTE: This area, about 1/2 - 3/4 mile in distance, would be affected by parking demand generated from events at the stadium and arena. On-street parking spaces in residential areas were not counted in the inventory of parking spaces assumed to be available for the stadium/arena. The western boundary of the parking radius is generally formed by a line between the intersection of Division and Bryant Streets, and the intersection of Rhode Island and 18th Streets.

Mission Bay

SOURCE: Environmental Science Associates, Inc.; Robert L. Harrison; and Robert Reeves

FIGURE 3
15-MINUTE WALKING DISTANCE TO THE STADIUM AND ARENA SITES

I have worked in the China Basin area for almost ten years now and my personal observation is that traffic flow has gotten progressively worse, year by year, until now it is almost at gridlock from 4:30 p.m., at the Third and Berry intersection, until 6:30 p.m. You use the phrase "mitigating factors" frequently in your analysis as to how to overcome this problem, but I fail to see what they are. . . .

I have no idea what methodology you are using for your numbers on actual and future traffic density for the area. I can only say that when the Missouri was parked at Pier 36 for public display, the traffic congestion in the area was so fierce on that weekend that I had great difficulty getting to my office at all.

Traffic on the Bay Bridge was backed up from the Fremont off ramp, all the way to the Yerba Buena Tunnel, causing some people to wait for more than an hour just to get into the area let alone find a parking place.

I find it mind bending to contemplate any way to "mitigate" these problems with the "solutions" offered in the report. (Lane R. Ward)

Response

In Table VI.E.23 on p. VI.E.144 of Volume Two, VI.E. Transportation, the Mission Bay EIR acknowledges that existing conditions (as of 1985) at intersections adjacent to freeway on-ramps, and the Third and Berry Street intersection currently represent poor levels of service. For the freeway intersections, the supplemental analysis in the SEIR is not intended to imply that trips generated solely from ballpark/arena activities in year 2000 would be the cause of traffic congestion on the local street system.

Unlike those freeway intersections, which were not assumed to change in their configuration between 1985 and 2000, the Third and Berry intersection would function differently in 2000 than it did in 1985. With construction of the I-280 TCP improvements consisting of the addition of a new on- and off-ramp west of King and Fifth Streets, widening of King Street into a six-lane roadway, removal of the I-280 off-ramp at Fourth Street, and extension of MUNI Metro through to Mission Bay from Market Street, future traffic patterns at Third and Berry Streets would involve vehicle volumes that would be much lower than current volumes; that intersection no longer would receive vehicles exiting from I-280. With the I-280 TCP

improvements in place, traffic circulation would be substantially changed by increasing overall transportation capacity (for vehicle and transit trips) in the area, well above 1985 levels.

The impacts generated by future development of Mission Bay as well as the proposed ballpark and arena have been analyzed assuming the I-280 TCP improvements are in place. In year 2000, King Street would be the most congested segment in the local street network serving the Mission Bay area.

A detailed discussion of the mitigation measures identified in the SEIR to alleviate traffic congestion is provided in the first Response on p. XV.Q.53. It should be noted, however, that the mitigation measures are identified mainly for local intersections adjacent to or near the ballpark or arena facilities. The main tool of the measures is to identify a means of directing and dispersing traffic most efficiently and evenly over the portion of the street network adjacent to the ballpark and arena facilities. For intersections that directly service freeway ramps, there are no project-related measures that can reduce or eliminate congestion to acceptable levels. Congestion at those intersections relates to congested freeway conditions, and can be relieved only by measures that would reduce freeway congestion.

Comments

The analysis of intersection congestion does not adequately address the effects of it on Muni (and other transit systems). This analysis must be expanded to include these considerations. (Norman Rolfe, San Francisco Tomorrow)

Page 16, Table 6: What will be the intersection level of service (LOS) at Brannan and Second, Fifth and Bryant, and especially Bryant and Second Streets where cars approach the Bay Bridge and Freeway on-ramps? What would be the impact of the traffic and pedestrian crowds on the functioning of the Muni Metro line when the intersection LOS is "F" at King and Third and at Embarcadero and Townsend Streets? (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

In the areas of the worst congestion, along King Boulevard and Townsend Street and at the entrances to certain freeway ramps, the operation

of transit services would be hampered where transit lines operate through the congested intersections. The mitigation measures suggested in the SEIR would reduce the impacts on transit operations. Along King Boulevard, for example, police traffic controls would be needed to establish priority for MUNI Metro and surface transit vehicles. At King Boulevard and Third Street, pedestrians should be separated from transit and other vehicle traffic in order to minimize the impacts of congestion on transit service. (See the Response on p. XV.Q.45, right-hand column, for more detail on pedestrian impacts.)

The "Ballpark Special" transit service would need to be designed to establish loading areas away from the most congested intersections to the maximum extent possible. These routes should be designed so that they would begin on the north or south side of the China Basin Channel and would avoid crossing King Boulevard.

The transit service plans for the ballpark/arena cannot be described in detail at this time. Specific operations plans for MUNI and other operators would be a part of any future work on the ballpark/arena project.

The Fifth and Bryant intersection, and the Second and Bryant intersection, are influenced by traffic destined for the Bay Bridge. In the peak period, eastbound traffic congestion on the approach to the Bay Bridge often reaches back to the freeway on-ramps at Fifth and Bryant Streets.

The Second and Bryant Street intersection does not experience congested conditions as frequently as Fifth and Bryant. That is because traffic flows through the intersection are influenced by vehicle volumes on the Bay Bridge itself, rather than the Bay Bridge approaches. The distinction between the Bridge and its approaches is important because the Bridge has greater carrying capacity than the approaches, which meter traffic flow onto the bridge. Since congestion on the Bridge itself occurs with less frequency than congestion on its approaches, the adjacent local intersections (such as that at Second and Bryant) are more likely to operate at acceptable levels than intersections serving the freeway approaches.

As indicated in Table XV.Q.3, the traffic added by the stadium/arena would add to near-capacity traffic at Fifth and Bryant, which would occur just before and just after the peak period and extend the time when this intersection is heavily or severely congested. The Second and Bryant Street intersection would operate at acceptable levels of service unless there were a back-up on

the Bridge itself. Under those circumstances, the service level at Second and Bryant Street would be lower (worse).

Comment

Regional Access. *The Port has a general concern that regional access to our facilities in the stadium's vicinity will be made harder, as noted above. The Draft Supplement does a good job identifying the impacts of increased congestion on regional highways and bridges. We assume that increased congestion generally has an adverse impact on the region's economic health.*

More important to us, however, is that the supplement makes no reference to those activities in the immediate vicinity of the stadium, such as the ocean terminals, which are adversely affected both by general regional congestion and the potential of being inaccessible by local congestion during game days. Unlike many businesses in the area, the terminals operate evenings and weekends, when stadium traffic is expected to peak. Third [Street] is the only viable means of truck access and egress from China Basin area terminals. . . .

Local Access. *Generally, the Port is quite concerned about the stresses put on The Embarcadero by this project. The stadium is a regional traffic generator which will induce traffic that was not planned for in either the development of Mission Bay or the upgrading of The Embarcadero.*

The statement in the Draft Supplement assuming ". . . roadway widening and improvements on the Embarcadero and King Street . . ." are completed (pg. 7) by the time the stadium opens is somewhat misleading. Contrary to the implication, the improvements and widening of the Embarcadero are not intended to add vehicular capacity. In fact, the widening and improvements serve to limit vehicular traffic as they accommodate extension of MUNI Metro.

As noted in the Draft Supplement, the impacts of stadium traffic on these local roads is potentially significant. I am particularly concerned that the analysis indicates that there is no adequate mitigation measure to relieve the projected overburdened traffic situation at the Embarcadero/Townsend intersection. Firstly, there is no explanation of this conclusion. Secondly, if true, the relative lack of street capacity in this segment of The Embarcadero will have impacts on future port developments in the

TABLE XV.Q.3: INTERSECTION LEVEL OF SERVICE (LOS) AND VOLUME-TO-CAPACITY RATIO (V/C), 2000

Intersection	4:30 - 5:30 p.m. Future Conditions Without Ballpark/Arena		3:00 - 4:00 p.m. Scenario One - Weekday Ballpark Sellout		6:30 - 7:30 p.m. Scenario Two - Weeknight Ballpark Sellout and 50% Arena Use	
	LOS	V/C	LOS	V/C	LOS	V/C
Fifth/Bryant	F	1.09	F	1.35	E	0.91
Second/Bryant	B	0.65	B	0.60	A	0.45

SOURCE: Robert L. Harrison

vicinity. Despite the statement on page 23 of the Draft Supplement, this does not seem to be adequately analyzed. (Richard J. Wiederhorn, Port of San Francisco)

Response

The intent of the transportation impact analysis is to indicate the times during which the worst impacts would most likely occur. In the case of the operating conditions at The Embarcadero and Townsend Street intersection, the worst conditions are projected to occur on weekday evenings between 6:30 to 7:30 p.m. when visitors are arriving in the area to attend ballpark/arena events. Given the traffic flow configuration for that intersection, inbound trips at that time of day would encounter the most difficulty. However, outbound trips following evening events would not result in poor levels of service. By way of example, notice that The Embarcadero and Townsend Street intersection would not suffer poor levels of service from 3:00 to 4:00 p.m., following a weekday afternoon game at the ballpark. During weekend ballpark/arena events, The Embarcadero and Townsend Street intersection is not projected to operate at poor levels of service.

The congestion resulting during periods of high inbound traffic volumes likely would negatively affect activities, including those of the Port of San Francisco, as well as travelers and pedestrians in the area. The fact that there are no distinct mitigation measures that can currently be identified specifically to improve operating levels

at the intersection of The Embarcadero and Townsend Street during those limited periods for weekday evening events is disclosed in the supplemental environmental analysis. Further consideration of mitigation measures would be part of subsequent environmental review conducted if a proposal for the sports facilities is pursued.

With regard to the description of I-280 TCP improvements on p. 7 of the SEIR /34/, the text is revised to clarify the result of each of the individual improvements. The third paragraph on p. 7, from the third sentence on, states, as amended:

- Construction of roadway and transit improvements as part of the I-280 Transfer Concept Program would be completed: extension of MUNI Metro south of Market Street along King Street to meet the CalTrain station; roadway widening to accommodate MUNI Metro and pedestrian improvements along The Embarcadero; roadway widening to accommodate MUNI Metro and additional vehicle lanes on King Street; and replacement of the existing off-ramp from I-280 at Fourth and Berry Streets with two ramps (one on, one off) accessing I-280 from King Street near Sixth Street.

It should be noted that projected impacts along Third Street would not be dictated solely by trips generated by events at the sports facilities. As a major north-south access route, Third Street has served and will continue to serve as a major arterial in the City.

XV. Summary of Comments and Responses

Q. Sports Facilities

The most congested intersection along Third Street in the area serving the ballpark/arena and China Basin terminals is expected to be King and Third Streets. Mitigation measures for this intersection are identified in both the Mission Bay EIR (p. VI.E.200 of Volume Two, VI.E. Transportation) and the SEIR (p. 24 /35/) to reduce delay and congestion. However, it is acknowledged that truck travel to and from the port terminals during the weekday afternoon commute period, or before or after ballpark events, still would take more time to accomplish than if those trips occurred at other times.

Comments

My first thought in reading the EIR Draft Supplement is that the City has done a pretty good job in documenting the tremendous negative impact of traffic that the stadium and arena will have on Mission Bay.

I will call your attention to Table 9 on page 25 which compares the impact of traffic at seven neighboring intersections in the year 2000 with and without the stadium and arena. Both of these are with Mission Bay. Mission Bay is the given, it's with and without the stadium and arena.

On a scale of A to F, F being virtual gridlock for an hour or longer, and E being completely unacceptable, A is fine traffic, -- without the stadium and arena, five intersections out of these seven are rated A, two are rated B. With the stadium arena on a weeknight scenario, six of the eight are F and one is E.

. . . By the City's own reckoning, we're going to have traffic gridlock in the entire South of Market area. The traffic jams on the Bay Bridge up to five hours, three hours on the Golden Gate Bridge, and up to three to four hours on the Peninsula. All these figures I'm sure you have heard before.

These projections I do believe to be also based upon a number of rosy ideas, such as the availability [of] a new CalTrain station, extended MUNI Metro service and new I-280 ramps, plus high public transit. I hope everybody here tonight who said they will come on public transit will indeed do that.

In fact, I thought it was quite interesting on Page 11. It says, I quote, "Inbound trips to downtown San Francisco do not contribute a major problem during the afternoon peak period."

In other words, people coming into this City, it's not going to make any difference. Well, I'm here to tell you this is 1989. I work downtown. I live on Potrero Hill. I see that traffic every day. And about half the time the Bay Bridge is already backed up. The traffic coming into town is backed up at Army Street now. (Rebecca Ford, Potrero Boosters and Merchants Association)

[On] Page 12 [the Draft Supplement states:] "On the other hand, inbound trips by attendees arriving for evening events, as assumed in Scenario Two, generally would not worsen cumulative impacts on the regional transportation network."

People hurrying to an evening game will block intersections, make illegal U-turns, or do whatever they have to (including illegal parking) to get there for the "first pitch". (Jack Moore, Potrero League of Active Neighbors)

Response

In response to the commenter's statements regarding inbound trips, some clarification is necessary. During weekday afternoons, most trips on the transit systems serving San Francisco, and about half of the freeway trips leaving San Francisco's Downtown & Vicinity, are made by workers leaving San Francisco; these are outbound trips. As a result, transportation capacity on the portions of the freeway and transit systems providing outbound service is most affected during this period. The portions of the transportation systems providing service inbound to San Francisco generally operate with available excess capacity during the afternoon peak commute period. This holds true particularly for regional transit carriers, and for most local streets.

For the freeways, inbound trips to downtown San Francisco are a relatively small proportion of the total number of trips. However, inbound freeway trips into San Francisco are often delayed by back-ups mainly created by the outbound trips leaving the City. This is the case for U.S 101 and I-80/Bay Bridge, where westbound inbound trips from the East Bay are affected by southbound outbound trips downstream on U.S. 101 (and vice versa), and where northbound inbound trips from the Peninsula on U.S. 101 are affected by eastbound outbound trips headed for the Bay Bridge (and vice versa). As a result, inbound trips on freeways during the afternoon peak commute do contribute to the congestion and

delays experienced during that time by trips headed either toward or away from the Downtown & Vicinity.

In light of the distinction that should be made between transportation capacity on transit versus freeway systems, the last paragraph on p. 11 of the SEIR /36/, beginning with the second sentence, is revised accordingly to state:

- For inbound travel on transit carriers flowing opposite to the peak travel direction, adequate transportation capacity generally is available to accommodate travel demand. Inbound travel to San Francisco via freeways, however, would incrementally contribute to already congested conditions projected to be generated primarily by outbound freeway trips. Inbound trips to downtown San Francisco, however, do not constitute the major component of travel during the afternoon peak period.

In addition, the second sentence of the first paragraph on p. 12 of the SEIR /37/ is amended and a new sentence is added, as follows:

- Inbound trips by attendees arriving for evening events, as assumed in Scenario Two, would not worsen projected adverse cumulative impacts on regional transit carriers. However, inbound trips arriving in downtown San Francisco between 6:30 and 7:30 p.m. via freeways would still contribute incrementally to projected freeway delays.

Pedestrian Impacts

Comment

In addition, the Draft Supplement appears to understate the impacts of heavy pedestrian traffic around the stadium on vehicular movements. Experience in other cities with similar stadium sites indicates that while there are many streets in the city grid surrounding the stadium, they all get seriously clogged with pedestrians leaving the game, and do not ". . . enable drivers to disperse quickly . . ." (pg. 17) until one gets a long distance from the stadium itself.

This is especially true in off-street lots and garages, where driveway egress is blocked by pedestrians. I suggest that mitigation measures to insure smooth flow of traffic may have to be more comprehensive than that presented in Table 8. (Richard J. Wiederhorn, Port of San Francisco)

Response

The extent of pedestrian impacts associated with the ballpark/arena has not been fully evaluated at this time, but will require detailed analysis if a formal program for the ballpark/arena facility is pursued. However, given the types of event scenarios that have been evaluated, pedestrian trip demand could warrant that a pedestrian walkway network be a component of the overall design and site planning of the ballpark and arena facilities.

Pedestrian impacts would be particularly intensive near the ballpark facility, where conflicts between vehicle traffic and ballpark visitors would interrupt travel flow along King Street. King Street provides direct access to I-280 and MUNI Metro service, and is projected to be one of the street segments most affected by ballpark/arena travel demand.

In light of those impacts, a mitigation measure is added to p. 26 of the SEIR /38/ to identify the potential for overhead pedestrian crossings to maintain separation between pedestrian and auto travel. Based on initial estimates, the pedestrian flows could warrant at least three such crossings: over Third Street, south of King Street; over King Street, west of Third Street; and over King Street, east of Third Street (which also should include a branch exit to the MUNI Metro platform). New text added to p. 26 of the SEIR /38/ states:

- To provide an adequate and safe pedestrian network to serve the ballpark and arena facilities, overhead crossings could be provided to maintain separation between pedestrian and auto travel. Among various locations that may be considered, the following should receive high priority: over Third Street, south of King Street; over King Street, west of Third Street; and over King Street, east of Third Street (which also should include a branch exit to the MUNI Metro platform). The design of such crossings would likely need to be integrated into the design process for the ballpark/arena facilities, and components of Mission Bay development that would be located in those areas.

Parking Impacts

Comments

The next page [p. 21]. I don't think you factor in YBC in any of this discussion. . . .

XV. Summary of Comments and Responses

Q. Sports Facilities

One thing I forgot. On that map where you can't see the names of the streets, the South of Market area, I found the number of available spaces really high. I don't know if it was something like 18,000, but it was high. And you must check to see if any of those lots are already designated for Mission Bay, especially YBC and the convention center. And quite a few within the line that I could see are designated for -- not just parking for YBC, but for redevelopment buildings. And we just can't count them if they are designated, at least I don't -- just because they are parking now, if they are designated, that should be made clear. (Commissioner Bierman)

It is obvious that there is no adequate parking in the area inasmuch as the existing commercial parking lots, which are now fully occupied and have been "sold out" for the past couple of years. Even though I arrive at work before 8:00 a.m., I sometimes have to park three or four blocks away from the office. . . .

Make no mistake about it, there is little or no parking down here at all. Traffic is very, very heavy and putting a stadium here could really cause catastrophic chaos, especially if the Mission Bay project is ever completed. I cannot conceive how this is not understood by the people proposing such a venture. (Lane R. Ward)

[On] Page 8 [the Draft Supplement states:] "However, during nighttime events at the proposed stadium/arena, there would be adequate parking that would preclude the need for a very high use of transit at that time."

Where is the adequate parking under all Mission Bay alternatives at buildout in 2020? . . .

[On] Page 22 [the Draft Supplement states:] "A critical difference in impacts generated by the stadium/arena would be related to parking. The buildout of Mission Bay would greatly reduce or possibly eliminate an important parking resource for the stadium/arena, particularly for events scheduled during weekday afternoons. A theoretical result would have patrons parking much further from the stadium/arena, perhaps more than twice the distances projected for year 2000.

Clearly, a stadium/arena proposal is out of line for the China Basin area. If plans for developing Mission Bay are to move forward, the stadium/arena idea must be scrapped. Even so, the impacts of 4 million square feet of office space will be so severe, that that amount should also be greatly reduced. To consider a

stadium/arena and an increase over the 4 million square feet of office space is irresponsible and may lead to unnecessary additional delays in the planning process for Mission Bay. (Jack Moore, Potrero League of Active Neighbors)

Transportation. The proposed stadium will make a bad situation impossible as studies predict. Creation of sufficient parking has not yet been planned and probably will be impossible to plan. (Sarah M. Hallam, San Franciscans for Planning Priorities)

Page 8, last paragraph: The text mentions adequate nighttime parking. Where might this occur? Would this parking occur in the residential streets in South Beach? . . .

Page 17, last paragraph: How will increased development in this area due to construction on vacant lots and changes to more intensive uses over the next twenty years affect these parking availability percentages? (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Given the build-out of the Mission Bay project, what number of parking spaces will be lost over the life of the Mission Bay project? (Please describe data in five year increments.) (John Bardis, Inner Sunset Action Committee)

. . . In summary I believe the predicted use [of] public transit is unlikely to occur, as the as yet unbuilt facilities may not be constructed, and the patrons from the peninsula will not use them in any case. Thus, the largest group of fans will arrive by car, not public transit. These people will need off street spaces not otherwise occupied by business use (which frequently goes into the evening hours). Any assumption that thousands of business spaces used in the daytime will automatically be available for evening use by baseball fans is false. Many people today work in the early to mid evenings, and will want their cars to travel home in the later evening. (Richard H. Moss)

The proponents of this project say that they must have a new stadium because the Giants can't fill Candlestick Park. However, if you express any concern about parking at the proposed complex, they say not to worry because the stadium will never be filled to capacity. The fact is that there is no adequate plan for parking at this complex and the nearby neighborhoods do not have space to handle extra parking pressure. (Christopher Sabre)

I think the larger issue is that the EIR overstated the parking concerns for the worst case that's been stated. (William Sloan)

Response

All analyses presented in the SEIR are based on two event scenarios, both of which include a sellout baseball game. Although this is not expected to occur frequently, the analyses examine the associated impacts in order to provide a conservative (high-end impact) presentation.

As part of ongoing feasibility studies for the ballpark/arena, more analysis of current and future parking resources has been carried out to identify how parking demand could be accommodated through coordinated and programmed use of future parking resources. The discussion below, based on ongoing studies, is presented for informational purposes. A formal parking program would be subject to further review in a separate environmental evaluation, if a formal proposal for the sports facilities is pursued.

Parking to serve the ballpark and arena facilities has been identified in terms of primary and secondary parking supplies. The primary supply includes parking structures provided on the ballpark and arena sites, plus parking supply on Mission Bay parcels located north of China Basin Channel. A preliminary program for the primary parking areas has been developed to identify how the number of spaces, locations and usage would change over time as Mission Bay is gradually developed. This is shown in Table XV.Q.4.

Weekday Afternoons

It is estimated that the weekday primary parking would provide 4,500 spaces. This parking would come from four sources: a garage at the ballpark site; a lot/garage at the arena site; lots/garages in the Mission Bay Project Area; and "contract parking," consisting of parking resources specifically contracted for ballpark/arena events. Table XV.Q.4 presents a possible primary parking program, which would likely be modified and refined as planning for the sports facilities progresses. Table XV.Q.4 indicates more current and accurate estimates of the number of parking spaces that could be provided at the ballpark and arena facilities than the figures cited in the SEIR.

The secondary parking supply would consist of other on-street and off-street parking within a

15-minute walk of both the ballpark and arena sites, based on several parking surveys conducted between 1984 and 1987. No on-street or off-street parking within existing residential areas including South Beach, residential enclaves in South of Market, or Potrero Hill was included in the inventory. In addition, the inventory was updated in the fall of 1988 for those areas where development activity has been the greatest in recent years, such as Yerba Buena Center (YBC).

The supply of off-street parking in YBC was adjusted downward (by about 50%) to exclude lots that are slated for development. Approximately 1,030 private and public off-street, and 340 on-street, spaces in YBC are included in the secondary parking supply. It is anticipated that events in Moscone Center and the ballpark (or arena) could be coordinated to avoid events occurring simultaneously at the two facilities. This would be possible because Spectacor Management Corporation would operate both complexes.

The total parking supply (including Mission Bay) is about 25,190 spaces, based on the 1988 parking update survey. After accounting for low parking vacancy rates during weekdays and some increase in overall parking demand over time, the available supply is estimated to be 8,550 spaces within a 15-minute walk in the year 2000. A greater proportion of this available parking is located in the western half of South of Market and in the Showplace Square area, where land use activities are generally less intensive than in the area east of Fourth Street.

This supply of 8,550 available parking spaces is smaller than the supply indicated in the SEIR. As a result, the SEIR is amended.

The first paragraph on p. 19 of the SEIR /39/ is revised to state:

- In year 2000, the Mission Bay Project Area would still be largely undeveloped. This analysis assumes that lots in Mission Bay, north of China Basin Channel, would provide temporary surface parking or garage spaces for stadium/arena events, in addition to other parking resources within a 15-minute walking radius. For weekday events, an estimated 2,800 spaces in Mission Bay would be available for ballpark/arena visitors. For evening events, approximately 5,600 spaces would be available for ballpark/arena visitors. The greater supply in the evenings reflects lower use levels by Mission Bay employees than those that would occur during weekdays.

TABLE XV.Q.4: POSSIBLE WEEKDAY PRIMARY PARKING PROGRAM AVAILABLE TO SERVE THE SPORTS FACILITIES (IN NUMBER OF PARKING SPACES)

	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2010+</u>
Weekdays				
Ballpark Garage/a/	1,000	1,000	1,000	1,000
Arena Lot/Garage	700	700	700	2,500
Mission Bay Lots/b/	2,800	2,800	2,800	0
Contract Parking	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,000</u>
	4,500	4,500	4,500	4,500
Weeday Evenings				
Ballpark Garage/a/	1,300	1,300	1,300	1,300
Arena Lot/Garage	700	700	700	2,500
Mission Bay Lots/Garages/b/	5,700	5,600	5,800	3,800
Contract Parking	<u>300</u>	<u>400</u>	<u>200</u>	<u>400</u>
	8,000	8,000	8,000	8,000

- /a/ This analysis assumes that some of the spaces in the ballpark garage would be available to non-ballpark visitors.
- /b/ Estimated parking in the Mission Bay Project Area consists of spaces in surface lots and garages north of China Basin Channel. During weekday afternoons, the analysis does not assume the use of any garage spaces, which are presumed to be already occupied by Mission Bay employees or residents. The parking availability assumptions for weekday evenings, however, assume some garage spaces would be available for use by visitors to ballpark/arena events.

SOURCE: Robert Reeves

The last paragraph on p. 19 /40/ is revised to state:

- For Scenario One, a weekday afternoon sellout event at the stadium, visitors would not be able to find an adequate amount of parking within a 15-minute radius walk (a distance of about three-quarters of a mile) from the stadium/arena to meet full demand. Some visitors would have to seek parking at distances farther than 15 minutes from the stadium/arena. Figure 3 provides an approximate indication of a 15-minute walking radius.

The third paragraph on p. 21 of the SEIR /41/ is changed to state:

- Other more distant areas such as Inner Mission and Potrero Hill could be affected

during weekday events, though to a more limited degree than Mission Bay, South of Market or Showplace Square. Some of these areas also would be less attractive as parking resources because of their hilly locations.

In the fourth paragraph on p. 21 /41/, the first sentence is deleted, and the first word of the second sentence and the comma that follows it ("However,") are deleted.

Table 7, on p. 19 of the SEIR /42/, is changed in the following ways. Under "No. of Parking Spaces for Private Vehicles (Stadium/Arena Users and Staff)," the description in parentheses under "Availability" is changed to:

- Availability (Within 15-Min. Walk of the Ballpark & Arena)

Under the "Availability (Within 15-Min. Walk of the Ballpark & Arena)" column, the "Weekday" scenario number is changed to:

- 8,550

The "Weeknight" scenario number in this column is changed to:

- 19,420

Weeknights

An estimate of the available primary parking resources for weekday evening events at the ballpark/arena is shown in Table XV.Q.4.

For the secondary parking supply within a 15-minute walk of the ballpark/arena, the total inventory (based on a 1988 parking update survey) is about 25,190 spaces. This total was adjusted downward by 9,300 spaces to account for circumstances that would effectively reduce the available evening parking supply: private off-street parking known to be used during the evenings and weekends; and on-street parking near the ballpark and arena sites where traffic controls would likely occur. This adjusted supply was reduced further to incorporate parking vacancy factors that are based on eight parking occupancy surveys taken on weekday evenings and weekends. For weekday evenings, the number of available parking spaces is estimated to be 11,420. This secondary parking supply, together with the number of spaces estimated for primary parking areas, would result in a total of about 19,420 spaces available within a 15-minute walk of the ballpark and arena during weekday evenings. The 19,420-space total incorporates more detailed parking programming, conducted after the SEIR was published. The parking supply number in Table 7 on p. 19 of the SEIR /42/ is thus revised for the weeknight scenario.

It is possible that current parking resources could be diminished over time without some measure to protect and retain them. For that purpose, a new mitigation measure could be considered for establishment of an overlay parking zone for the secondary parking area, which would require new development to replace at least the amount of parking that is displaced. The parking replacement requirement could be increased if parking demands of the new development were to exceed the number of spaces already located on the parcel.

Page 27 of the SEIR /43/ is revised to add the following measure at the top of the page:

- In order to maintain a relatively constant parking supply within a 15-minute walking distance, a parking overlay zone could be legislated for inclusion in the City Planning Code to require that new development replace any parking that is displaced.

Comments

[Pg. 20] talks about 15-minute walking distance to the stadium. I think it's optimistic to think that people at night will walk 15 minutes. Maybe eight men together in a jolly fashion will walk. But eight women together, even after a few drinks, are not going to walk to this stadium. . . .

Also you say here that people won't walk up on Potrero Hill. I want you to know that the people do for the love of sports walk up hills. My house is five blocks or six blocks above where the 49'ers played for the first several years. Believe me, my son bought his way into their games by filling a parking lot that we didn't own. . . . [T]his document should not say Potrero Hill will not feel the impact because people will park up there and you should cop to that. (Commissioner Bierman)

[On] Page 9 [the Draft Supplement states:] "Table 2 /b/, The main determinant of the auto mode share is the supply of available parking. With substantially more limited parking resources available on weekday afternoons, levels of auto use would be lower than levels of auto use during weeknights."

The assumption that the supply of available parking is lower during the weekday will force people onto public transit is hypothetical at best. What will most likely happen is people will arrive in the area earlier in search of a free parking space and walk the extra-distance to the stadium/arena. (Jack Moore, Potrero League of Active Neighbors)

Response

While some visitors to the ballpark/arena would be willing to walk farther than others, the 15-minute walking radius was considered to be a reasonable benchmark for planning purposes. The walking distance from the most remote points of Candlestick Park has been timed to be greater than 15 minutes, although for the majority of events, visitors do not have to park at these outer reaches. Experience at both Candlestick and stadiums in other cities indicates that fans will walk this distance at night.

The residential area on Potrero Hill located nearest to the ballpark site is an estimated 20- to 25-minute walk. Although it is possible this neighborhood could be affected by parking demand associated with a weekday afternoon sellout ballgame, this would not be a common event, even at a proposed China Basin location. The Mission Bay, Showplace Square and South of Market areas would be most heavily affected.

The arena site is located an estimated 12-minute walk from the nearest Potrero Hill residential area. Existing and proposed parking located within a 10-minute walk of the arena site would exceed the demand that would be generated by a capacity arena event. Parking within a 15-minute walk of the ballpark and arena would exceed the demand generated by events at both the facilities, as analyzed in the SEIR.

To the extent some ballpark/arena parking demand could affect Potrero Hill, the SEIR on p. 26 /44/ includes a mitigation measure to administer a residential parking sticker program should parking problems become acute as a result of events at the sports facilities.

Comment

Please clarify whether the parking garages being constructed by the Mission Bay project are surface, underground or a combination. (Gary Adams, Caltrans, District 4)

Response

Parking supply in Mission Bay to be used for ballpark/arena events would be provided on the six blocks north of China Basin Channel bounded by Third, Townsend, Sixth, and Berry Streets. Prior to development of the parcels, parking would be provided on surface lots. Current site planning studies indicate structured parking, as part of the construction of Mission Bay land uses on these six blocks, would be provided in single-level subgrade garages. For the three blocks bounded by Third, Townsend, Sixth, and King Streets, an additional at-grade parking level would be included in the building designs.

Comment

It appears that an inordinate number of on-site parking spaces are devoted to stadium/arena employees: (500). (Richard J. Wiederhorn, Port of San Francisco)

Response

The SEIR erroneously stated that on-site spaces would be used solely by employees. In fact, those designated parking spaces would be used mainly by VIP visitors, players and staff, and the press. Consequently, the second sentence of the second paragraph on p. 19 of the SEIR /45/ is revised to state:

- In addition, stadium/arena staff, VIP visitors, players and team staff (or performers), and the media would require about 500 parking spaces for major events.**

Comments

Since the document (page 22) states that for year 2020 impacts, "a critical difference in impacts generated by the stadium/arena would be related to parking", the traffic/parking impacts for year 2020 should be as fully analyzed as they are for year 2000. (Gary Adams, Caltrans, District 4)

At least with regard to some of the transportation and parking impacts, the supplement suggests that by 2020 there really are no mitigation measures. It's not something that we have a handle on at this point. And that does concern me. Apparently when Mission Bay is built out, a lot of the available parking will be lost. Is this the best we can do at this point? Is there some direction that we can have about what we will do in 2020 with regard to transportation, parking and other impacts? (Commissioner Morales)

Response

Planning for the ballpark/arena facilities will include a parking program to ensure that existing and future parking resources on and around the two facilities are used efficiently. A preliminary program is presented in the Response on pp. XV.Q.47-XV.Q.49. Were the City to arrive at a more formalized proposal for the ballpark/arena, which would warrant a separate environmental evaluation at a future date, more analysis related to those site-specific details would be provided at that time.

In terms of articulating potential impacts for year 2020, there is limited ability to discuss future conditions beyond what has already been presented in the Mission Bay Draft EIR. The analysis for 2020 is much more speculative than that presented for year 2000. The larger number of unknown variables for that distant time

horizon, such as transportation improvements or new technological developments that affect employment and population growth patterns, to name a few, results in a potential margin of error in the analysis that could exceed the magnitude of additional impacts generated by a ballpark and arena. Thus, the conclusions of the 2020 analysis as presented in the Draft EIR would not be altered by additional impacts of the ballpark/arena: without future transportation system improvements, such as those identified in the mitigation measures of the Mission Bay EIR on pp. VI.E.217-VI.E.231 of Volume Two, VI.E. Transportation, extremely congested conditions on the region's transportation network would occur, which would be directly reflected in local traffic circulation conditions around freeway access points and the street segments serving them.

Comments

[On] Page 26 [the Draft Supplement states:] "The stadium/arena project would require space for charter bus parking in addition to parking for private cars. This space could be provided on the unused Port of San Francisco lands near Piers 48 and 50 for stadium buses and on the City-owned Channel Street right-of-way near the arena site."

In the first place Port property has to be used for Port related activities. In the second place, Mission Bay alternatives A and B call for the main open space element for the Mission Bay development to be located adjacent to Piers 48 and 50. And the Channel Street right-of-way would provide very little space for parking unless it were developed as a multi-level parking facility. In that case who would build it, operate it, and what would be the impacts? (Jack Moore, Potrero League of Active Neighbors)

Page 19, Table 7: 75 charter buses would occupy approximately 1-1/2 acres of land if they were parked in a valet configuration. They would occupy at least two or three times this area if they were parked as individually accessible. As the Mission Bay Project is built out, it will become increasingly difficult to find this much land to conveniently park these buses. Will the Port need Piers 48 and 50 for other uses instead of bus parking lots? (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

In discussing the use of Pier 48-50 backland areas for automobile or bus parking, the Draft Supplement should differentiate between acreage reserved for Port use in the Mission Bay project

and that intended to be used as open space. It is unlikely that Port land holdings which are intended to remain in support of Pier operations would be available to be used for parking. Contrary to the statement in the Draft Supplement, this land is not "unused" (pg. 26). Using it for parking has impacts by disrupting both pier operations and Port tenants on the site. (Richard J. Wiederhorn, Port of San Francisco)

Response

Charter bus parking can occur either on a lot or at designated curbside spaces, or a combination of both. Ballpark charter buses for a sellout ballgame would require about 75,000 square feet of land (on a lot), or about 3,000 linear feet of curb space. It is possible this amount of space could be accommodated along Third Street, south of China Basin Channel or on King Street. However, bus parking would then eliminate about 150 standard parking spaces.

The SEIR contains only preliminary information about parking areas for charter buses. No determination has been made as to where charter buses would be directed. Parking areas for buses would be one consideration in producing a parking program for the sports facilities. Details of that program would be part of the specific planning and design work necessary if the ballpark/arena proposal is pursued. Were bus parking to occur on land adjacent to Piers 48 and 50, the planning analysis would have to include considerations of land-use trade-offs among port activities, Mission Bay uses and the sports facilities.

The SEIR is corrected in the second paragraph under "Parking Mitigation Measures" on p. 26 /46/ to delete the word "unused," in the second sentence, related to the current status of Port of San Francisco lands near Piers 48 and 50. As corrected, the sentence states:

- **This space could be provided on the Port of San Francisco lands near Piers 48 and 50 for stadium buses and on the City-owned Channel Street right-of-way near the arena site.**

Traffic and Transit Mitigation

Comment

Mitigations which will reduce the impact to State facilities should be included in the document. Those discussions should include, but not be limited to, the following areas:

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financing,
scheduling considerations,
implementation responsibilities,
monitoring.

(Gary Adams, Caltrans, District 4)

Response

The mitigation measures identified in the SEIR primarily address local streets and programs to alleviate transportation impacts of the ballpark/arena. As far as state transportation resources go, there are no new mitigation measures in the SEIR beyond the cumulative measures identified in the Mission Bay and South of Market EIRs, to which the SEIR is appended. For the Response on implementation of those cumulative mitigation measures identified in the EIR, see XV.E. Transportation, pp. XV.E.32-XV.E.41.

Comment

A couple of quick points about the specifics of the environmental impact. If everyone from outside the area drives into the City for the ballpark and ball games, these people are creating a lot of environmental disaster for everyone as well, not just as a small community, but as a global environmental problem like the ozone, et cetera.

There could be some creative ways of dealing with traffic and pollution. Change some hours of workload if the traffic is so bad. Stop driving cars, nine million cars into the City every day. It seems like all the people outside the City have a lot to say with what is built inside the City. [But] I think the kids have no spokesperson for them to speak about their needs.

The Environmental Impact Report needs to be holistic and comprehensive. (Dennis MacKenzie)

Response

Any final decisions made by the City on the ballpark/arena (if a formal proposal is identified and pursued) would have to take into account not only the environmental considerations initially identified in the SEIR, but also social, economic and political considerations that are outside the scope of an environmental impact analysis document.

It should be noted that the cumulative transportation impacts (as well as the resulting air quality impacts) were analyzed extensively in the Mission Bay EIR. For the future, the

transportation analysis in the EIR has already assumed that more people traveling to or from downtown San Francisco would shift from auto use to public transit in response to increased levels of congestion on the regional highway system. Further, the analysis implies that certain adjustments in work times (i.e., flex time) would be made by workers, resulting in freeway travel that occurs outside the standard 4:00-6:00 p.m. peak commute period. In spite of that, future transportation conditions are still projected to be congested. As a result, the EIR identifies additional transit improvements, among others, to reduce congestion and low levels of passenger comfort on public transit systems.

Comments

As a number of people have noted, we believe that the EIR does significantly overstate the negative aspects. We respect the staff for making a very conservative scenario. But when we look at the issues, we think that the staff also correctly, even from the very negative scenarios that they have prepared here, do conclude that low cost mitigation measures can deal with traffic and parking, that the issues related to the transportation system which are identified do adequately support and provide good access to the facilities that are under consideration. (Richard Morten, San Francisco Chamber of Commerce)

. . . On Page 24, you have all these mitigations and traffic improvements. They are serious and they are substantive, and they're the only way that you can probably justify the traffic impact South of Market. I want to know whether DPW has agreed to them, finds them feasible, what are the costs, who pays for it. It's really a whole page of very extensive ideas. I just want to be sure they are all viable, because quite a few of them -- I mean, you have got to remember, these -- Third and King, Third and Mariposa, Seventh and Townsend, Sixth and Brannan, Second and Harrison. These are the area where all the downtown is emptying out. And whether you can really do this, I think it's got to be carefully done with DPW. . . .

. . . There is a table on Page 25. And this is the table that shows the mitigation for these many F locations. Some of them go from E to D. Some from E to B. Some from F to D. These are done because of the previous page's suggestions. And that's very serious, because we have many documents that have these intersections listed at F now. We never before have had any suggestion that that could be solved by changing about seven major street patterns. I just question whether that's going to work. (Commissioner Bierman)

Response

The traffic mitigation measures identified in the SEIR were generally reviewed by staff at the Department of Public Works, Traffic Engineering. Given the widths of the rights-of-way (which are existing or planned via the I-280 TCP), the measures are technically feasible and could be carried out as described.

It should be noted that the possible mitigation measures suggested in the SEIR for improving traffic operations would not be permanent arrangements. Prohibition of parking or left-turn movements or use of police traffic control, if necessary, would be applied for limited durations, perhaps one or two hours before, and one hour following, events at the sports facilities.

The text of the SEIR is revised to note this additional point. The following sentence is added to the end of the first paragraph on p. 23 /47/:

- **Many of those measures may involve implementation one or two hours before and/or one hour after events at the two facilities.**

There are a number of reasons why mitigation measures were able to be identified in response to additional impacts generated by the ballpark/arena. First, many of these intersections are local intersections that do not serve as freeway access ramps. Second, San Francisco's street grid offers the flexibility of directing trips to other local intersections to even out traffic distribution, thus improving their levels of service. As a result, measures for mitigating traffic impacts at local, non-freeway ramp intersections are more readily available than for intersections that serve freeway ramps. In the case of freeway ramp intersections, their operation is largely dictated by the level of travel demand on the freeways themselves. When freeways are congested, the intersections feeding traffic onto the freeway also become congested. In those cases, there are usually no effective measures available to mitigate congestion that results on the local street system if there are none identified to relieve freeway congestion; redirecting traffic to other freeway intersections is therefore not considered mitigation, as those intersections also are usually congested. The majority of intersection analyses presented in past environmental evaluations, including that of the Mission Bay EIR, focus on peak-hour conditions (4:30 to 5:30 p.m.), which occur as a result of the weekday afternoon commute. During that time, freeway intersections are generally uniformly congested. Thus, mitigation measures have generally not been identified for those conditions.

The viability of mitigation measures is affected by the time for which they are proposed. In the case of the ballpark/arena analysis, mitigation measures were tailored to the estimated times events at the two facilities would generate traffic impacts. The two scenarios in the SEIR analyze traffic impacts for 3:00 to 4:00 p.m. (outbound trips from the ballpark) and 6:30 to 7:30 p.m. (inbound trips to the ballpark and arena), both of which periods would occur toward the outer time reaches of the afternoon commute. Traffic conditions during those times, even at freeway intersections, generally are not as severe as they are during the peak hour. Any unused intersection capacity therefore provides more flexibility than would be available during the peak hour to redirect traffic and thus reduce congestion at an intersection.

While the possible traffic mitigation measures have been determined to be technically feasible, the associated costs have not been determined, nor is it known at this time who would pay for their implementation. It is not expected that costs would be great, as the measures would not require any physical change to the affected roadway network. Most costs would be generated by installation (and removal) of temporary signage, redirecting traffic with cones or other such barriers/guides, parking enforcement, and traffic patrols. Implementation of such measures would be determined in findings that would be prepared before adoption of a ballpark/arena proposal.

Not all intersections that may need improvements are listed in the SEIR cumulative analysis. Other local intersections that might require mitigation would be evaluated as part of a detailed traffic improvement program in a subsequent ballpark/arena analysis, conducted separately from the Mission Bay EIR.

Comment

Regarding page 27, long range (10 years) MUNI and other transit expansion plans should be discussed. We understand that future plans to extend MUNI Metro past the BART-funded Sixth/King Street extension exist. (Gary Adams, Caltrans, District 4)

Response

The transportation impact analysis does already incorporate assumptions of some increases in MUNI service, based on its Short-Range Transit Plan (as adopted by MTC), and MUNI's own long-range transit improvement plans. As with improvements for other transit carriers assumed

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to be in place by year 2000, the discussion of those "reasonably assured transportation improvements" can be found on pp. VI.E.211-VI.E.214 of Volume Two, VI.E. Transportation, of the Mission Bay EIR, to which this SEIR is appended, and on pp. XIV.E.21-XIV.E.26 of Volume Three, Appendix E, of the EIR. A similar discussion appears on pp. C-30-C-38 of the South of Market EIR Technical Appendices. That information has not been repeated in the SEIR.

The transportation analysis also includes an assumption that MUNI Metro would be extended beyond Sixth and King Streets under Mission Bay EIR Alternatives A and B, to the vicinity of Seventh and Channel Streets. Proposed as part of the Mission Bay project, that further extension is for the purpose of providing MUNI Metro service directly to the CalTrain terminal which, in Alternatives A and B, also is proposed to be relocated to the vicinity of Seventh and Channel Streets.

Comment

On page 27, in the fourth paragraph, the word "could" should be changed to "should" in the two places it appears in order to give a greater priority to public transportation and make this paragraph consistent with the second paragraph on that page. (Norman Rolfe, San Francisco Tomorrow)

Response

The mitigation measure cited by the commenter regarding access routes for surface transit vehicles is revised to incorporate "should" in place of "could," along with other clarifications. As amended, the third paragraph under "Public Transit Mitigation Measures" on p. 27 of the SEIR /48/ states:

- Access routes for surface transit vehicles should be kept clear of competing auto traffic in order to assure efficient loading and departure of public transit vehicles. Streets which should be totally or partially reserved for transit vehicles before and after events include portions of Second Street or Third Street north of King Street, Berry Street toward the west, and portions of China Basin Street and Third Street, south of China Basin Channel.**

Comments

Page 27 -- The capital expenditures necessary to

provide even a part of the estimated MUNI and BART capacity needed to adequately meet public transit usage goals would be prohibitive. Who will pay for the new cars? (Marcia DeHart)

The report notes that the public transit systems would have difficulty servicing both the stadium and normal commute travel demand. The EIR should discuss feasible mitigation measures for these transit impacts. How would the additional service needs be funded? (Susan Pultz, Metropolitan Transportation Commission)

Response

The transit services to the ballpark/arena would not regularly require new transit equipment to be purchased by any of the transit operators. This is because the peak loads generated by the ballpark/arena would not occur at the same time as the normal rush hours when transit operators use their entire transit vehicle fleets. During off-peak times, before 4:00 p.m. and after 6:00 p.m., transit systems have a substantial portion of their vehicles available to perform other-than-regular services. For some operators, such as BART, Golden Gate Transit and SamTrans, the majority of their vehicles are not in operation in off-peak hours. The MUNI off-peak service level is higher than those of the suburban systems, but even MUNI has a portion of its fleet idle in the off-peak hours. Although there would be no capital expenditures for transit vehicles during off-peak hours, there would be additional operating costs required to serve ballpark/arena events.

If events at the ballpark/arena required transit service during peak hours, the level of service provided could be lower than demand, depending on attendance size. It is unlikely that transit providers would purchase more vehicles for the sole purpose of meeting demand generated by events at the sports facilities. More detailed consideration of other mitigation measures, if warranted in light of more detailed event schedules that may be identified were a formalized proposal for the sports facilities to be pursued, would be included in a separate environmental evaluation for the ballpark and arena.

Comment

On public transit. Priority routes for public transit vehicles should be identified in this jammed area to allow the efficient movement of these vehicles to and from the stadium and the arena. They should be, but how will they be?

You don't say. And with all these streets at serious levels of jamming, I don't know how you're going to do that.

The Metro should be designed, Muni Metro should be designed so it can work for the stadium as high capacity stations. What cost? And how do you do that? (Commissioner Bierman)

Response

The need to give transit service priority through congested intersections is discussed in the Response on pp. XV.Q.41-XV.Q.42. The two concepts suggested are: 1) provide police traffic control at the most congested intersections with instructions to give priority to transit vehicles, and 2) design "Ballpark Special" services to avoid crossing King Boulevard. The exact design of transit priority routes would be developed if a formal proposal for the ballpark/arena is pursued and subject to its own detailed environmental review.

MUNI Metro stations are being designed in engineering work now under way for the I-280 TCP to handle a theoretical capacity of 9,000 passengers per hour, which exceeds the projected Metro patronage which would be generated by a sellout crowd at the ballpark. That program is proceeding regardless of whether a ballpark/arena is ultimately built in China Basin. In addition, The Embarcadero and King Street improvements which also are components of the I-280 TCP include signal pre-emptions for MUNI transit service everywhere south of Market Street, except at Third Street.

Parking in Residential Areas (Mitigation)

Comments

Another one about Potrero Hill. You're going to say neighborhoods such as South Beach, Potrero Hill and Mission Bay can be restricted to local traffic. This is on a game night. I don't think you can say that. I mean, are people going to show passes? Do they show their driver's license to a cop? To me, that's just not a good thing to suggest. (Commissioner Bierman)

As a mitigation measure, the supplement talks about restricting traffic in residential neighborhoods. As Commissioner Bierman has some concerns, I would like some follow-up on that issue.

I'd like an elaboration on how neighborhood streets in nearby residential areas could be

restricted to local traffic. It seems like a very difficult and perhaps expensive proposition. (Commissioner Morales)

Regarding page 26, eliminating street parking by requiring permits, especially in the Mission Bay and South Beach area, may not be a good idea. Adequate parking for stadium/arena events is acknowledged by this document to be very important. Therefore, no potential on-street parking sources should be eliminated. Another idea would be to install parking meters that are enforced only during stadium/arena events. Patrons can pay to park on the street during such events, and residents can be issued stickers exempting them from metered parking. (Gary Adams, Caltrans, District 4)

Page 24 -- How will the restrictions to local traffic be effected? While some sort of car sticker arrangement could be worked out for residents, does this mean they could not have guests visit during baseball season? What if I have a craving for Greek food some evening; how do I get to S. Asimikopolous? How do I pick up a pizza from Goat Hill Restaurant, or get Thai barbecue? These Potrero Hill restaurants draw a city-wide clientele, and some arrangement must be made that does not interfere with their business. . . .

Page 26 -- A preferential parking sticker program is proposed to ensure stadium and arena visitors do not park on residential streets. While we have the reputation of being quiche-eaters, I doubt our fans would be much intimidated by a mere 'no parking' sign. Similar signage exists in other cities, but success depends heavily on enforcement strategies -- again, involving police departments. Even so, the hassles inherent in finding a legal parking space might well be worth the \$20 fine imposed. Back east, people park in driveways, on lawns, on sidewalks -- anywhere there is physical space for a vehicle. (Marcia DeHart)

[On] Page 17 [the Draft Supplement states:] "However, this could result in increased travel on streets in surrounding residential neighborhoods such as South Beach or Potrero Hill. Mitigation measures to reduce or avoid potential traffic or parking impacts are presented on pp. 23-27."

[On] Page 23 [the Draft Supplement states:] "a separate category of mitigation measures could be employed on streets in residential neighborhoods. Streets in neighborhoods such as South Beach, Potrero Hill and Mission Bay could be restricted to local traffic. Through traffic going to or from the stadium/arena could be prohibited on streets in these residential neighborhoods, through the use of street barriers and/or police control services."

Right! Who's going to pay for this one? This is so unrealistic, it's difficult to comprehend that it's even in this document as a mitigation measure. (Jack Moore, Potrero League of Active Neighbors)

Response

The primary method to keep ballpark/arena traffic away from residential streets in the South Beach and Potrero Hill areas would be to provide traffic routes and parking facilities which do not require the use of neighborhood streets. The traffic management program for the ballpark/arena could include: 1) traffic engineering improvements at arterial street intersections to reduce congestion on through streets; 2) prohibition of specific traffic movements such as the prohibition of northbound left turns along The Embarcadero at Second Street, at Townsend Street and at Brannan Street for one hour after events; 3) a comprehensive system of traffic direction signs to point out the arterial street routes and major parking areas; and 4) an extensive public information system both within the ballpark/arena and in the media to instruct fans on how best to reach the ballpark/arena.

The alternative measure suggested for installing meters to regulate stadium/arena event parking could also be a viable means of using parking efficiently. The following is added to the end of the last paragraph on p. 26 of the SEIR /49/ as a possible measure that could be considered in more detail in subsequent environmental review, which would be necessary before approval of a ballpark/arena:

- Another measure that could be considered is the installation of parking meters in residential areas that exempt residents (with parking stickers) from paying, but not ballpark/arena or other visitors. These measures would require strong parking enforcement to be successful.**

An effective traffic management plan and an adequate supply of close-in convenient parking would keep the great majority of traffic away from local neighborhood streets. The program to protect local residential areas would be initiated in response to requests from each neighborhood only if the traffic management plan did not provide sufficient incentives to keep drivers out of residential areas.

The program would consist of additional measures such as the preferential parking sticker

program described in the mitigation discussion on p. 26 of the SEIR /49/, and the parking meter measure suggested by Caltrans above.

Requests for control of through traffic on specific local streets would be dealt with on a case-by-case basis. As a first step in responding to such requests, traffic engineering solutions and traffic direction signs would be explored. Temporary passive police barriers, as discussed on p. 24 of the SEIR /50/, could be installed during events at specific entrances to local areas where traffic could not be controlled in any other fashion. The actual posting of police officers on local streets to enforce traffic rules would be considered only as a last resort in any area where the traffic impact on local streets was impossible to control in any other fashion.

The details of the traffic management plan would be worked out in the planning, environmental and engineering work, separate from the SEIR analysis that has been presented, which would be part of the development of the ballpark/arena project should that project be pursued.

Comments

The idea of hiring scores of traffic police to handle the congestion would be very expensive and I doubt would do very little to overcome the problem. (Arthur Belnick, Automobile Procurement Corporation)

Many of the proposed traffic mitigations involve police services. The Police Department has eliminated overtime as a cost-cutting measure, and we in the neighborhoods are suffering as a result. Whether sworn personnel or traffic personnel are utilized, of necessity there will be greatly increased overtime costs to the Department. Who will pay for these costs? (Marcia DeHart)

. . . I speak for the 300 members of the South Park Improvement Association. We are two blocks from the stadium. We are one of probably the few people in this room who are impacted directly in a quality of life way. . . .

The point I would like to make is that the mitigating methods which this report addresses and that are used frequently, that this is the way to solve it, those mitigating methods are what doctors use to ease the pain and suffering of a disease. The point is not to catch it in the first place.

This Environmental Impact Report, when read as a body of work, implies that the stadium is a disease but there are ways to offset this. The report does not tell us a number of things. It would mitigate some of the traffic at intersections by having traffic police at them. Does it realize that traffic police are there already? (Bruce Burdick, South Park Improvement Association)

. . . I'd like to get on to a more important aspect of the Environmental Impact Report, which is that 55 policemen from the City and County of San Francisco would be required to direct traffic each time there was a ball game.

I was at a police community relations meeting Tuesday night. The big problem in our neighborhood is crack and it is drugs and it is the lack of policemen to monitor and deal with that situation. We cannot afford one policeman once a week, never mind 55 every time there is a ball game.

Mr. Lurie is the person in the end who is going to make the money from this. And it is the request of myself, and I'm sure many residents of the City, that those 55 policemen be provided from a private agency and not come from my taxpayer and your taxpayer money. (Marion Aird)

Response

Of all the mitigation measures proposed, only one measure for the intersection of Third and King Street concludes the clear need for police traffic control, under the two scenarios studied in the SEIR. It is likely that measure could be satisfied by a few officers, not 55, as stated by one commenter. This would be fewer than the number of officers currently required for traffic control at Candlestick Park. The possibility of need for additional police control is identified for residential neighborhoods, but such control is not exclusively prescribed. These measures are intended to focus on areas affected by ballpark/arena events. While it is acknowledged that the City already conducts police traffic control in other locations (largely to facilitate traffic flow at congested freeway intersections), activity in those areas is independent of the mitigation measures identified for the ballpark/arena.

Cost estimates and final decisions as to implementation of all mitigation measures are a matter for resolution in findings that must accompany a decision to approve a project. If a formal proposal for a ballpark/arena is secured and approved by the City in the future, the

disposition of each mitigation measure identified through the environmental review process would be determined at that time.

Other Parking Mitigations

Comments

One of the issues has to deal with parking around the stadium. And the supplement states that there are about 3,000 parking spaces adjacent to the stadium and about 2,000 next to the arena. Yet there's a need, at least at the stadium, of about 9,000 to 15,000. Now, the supplement concludes that that be accommodated in nearby areas somewhat farther from the stadium.

My question is, how will people be directed to those nearby areas? Because my sense is that they would be scattered throughout a wide area. I don't know how people would know where to go or whether they are going to jam up certain streets. How will they be directed to those available parking spots?

I know that one suggestion was an innovative program whereby parking spaces are essentially sold along with the game tickets. Apparently that's been tried successfully in Vancouver. But I wanted more information about how that program worked and whether it was in fact feasible and why it hasn't been tried in other cities in the United States.

Along those lines, I was also interested in the feasibility of the parking boat. I didn't know whether that was just sort of wishful thinking or an idle thought, or whether in fact it truly was something that could provide adequate parking around the stadium. (Commissioner Morales)

Page 26, paragraph 5: A concept such as a "parking boat" would likely be regarded as new bay fill under the McAteer-Petris Act by the BCDC and would not be permitted. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response /51/

The idea of a parking boat has not been subject to any in-depth evaluation as to its feasibility. Whether or not the BCDC would consider permitting this measure has not been explored at this time. Alternate solutions, such as the parking assignment program, and parking facilities planning between the ballpark/arena sites and Mission Bay area, are currently the subject of

deeper study, as they offer lower cost parking possibilities, with potentially fewer environmental impacts. Further investigation into these mitigation measures, as well as others, would occur if a formal proposal for the ballpark/arena, and its subsequent environmental review, is pursued.

The parking program in Vancouver referred to consisted of a computerized central box office that reserved both a seat in the stands and a parking space, primarily for professional football and soccer games at British Columbia (B.C.) Stadium. This program has essentially been discontinued, as the soccer team has since gone bankrupt, and the B.C. Lions football club found a more efficient parking arrangement.

The parking system allowed people to choose the lot they wanted to park in. The fees were \$3.00 to \$5.00, depending on proximity to the stadium. Handling fee for the reservation service was 50¢.

After the first year of operation of the computerized parking reservation system, it became apparent there was an overstock of available spaces and number of parking companies used to provide parking. Initially, with about 25,000 season-ticket holders, about 2,000 reserved parking spaces were used. For an anticipated sellout game, an additional 800 or 900 casual users might have used the reserved-parking service.

With a parking stock of about 8,000 spaces, reserved parking supply exceeded the demand. There never seemed to be a lack of parking, and the demand for reserved spaces decreased over time. The B.C. Stadium facility contains about 4,000 on-site parking spaces, and about 20,000 spaces within a 15-minute walk. The B.C. Lions organization now relies primarily on contracts with parking operators to accommodate stadium visitors on-site and in the vicinity. Apparently it has been determined to be more efficient for Vancouver to proceed on a first-come-first-serve basis than on the reserved parking system for individual games. However, the B.C. Lions still make available reserved season parking.

While the experience with reserved parking programs in Vancouver may provide some insight, that experience may not be indicative of what would happen if they were implemented in San Francisco. It is possible that a similar type of system would be successful for weekday afternoon events, when parking supply is most limited. The success of such a program also would likely be influenced by the amount of marketing and advertising provided. Should a ballpark/arena in

China Basin ultimately be approved (separate from the Mission Bay project), it is likely some experimentation with various potential mitigation measures, such as this reserved parking program, would be necessary before determining the most workable solutions.

Comment

Secondly, there is the possibility that one might be able to provide and tie in satellite parking, for example, as an alternative to parking within walking distance with shuttle buses. And is that mitigation possible within Mission Bay? I'd like to see some discussion around that. (Commissioner Engmann)

Response

The measure suggested in the Comment was generally considered prior to publication of the SEIR. Upon evaluation of large parking reservoirs in the greater downtown, beyond walking distance of the ballpark/arena sites, it was determined there would not likely be substantial amounts of unused parking in those facilities on a consistent basis that would make an established shuttle service viable. This is particularly true for weekday afternoon events, when parking in general is least available.

If a formal ballpark/arena proposal is pursued by the City, more evaluation could be warranted to evaluate the feasibility of this mitigation proposal for weekend ballpark/arena events, which were not evaluated in the SEIR. In addition, it is possible that a modified version of the measure, to provide shuttle service as a complement to an organized parking program that assigns a specific parking space to specific ballpark/arena seat tickets, would be viable to ensure efficient use of parking already available in the nearby area.

Transportation Land Use Mitigation

Comments

In the Mission Bay project, which is a planned development, I think I'd like to see some discussion of mitigations in the Mission Bay project that we could build in, assuming a stadium or arena were built in. For example, the layout of streets in Mission Bay, the establishment of corridors in Mission Bay could be designed in such a way to either encourage or discourage traffic traveling through Mission Bay, either between 101 along Third Street to the stadium or to downtown....

XV. Summary of Comments and Responses

Q. Sports Facilities

There are a lot of other mitigations that might be put in around the stadium, but those I don't think are totally appropriate for the discussion tonight. But I'd like to see some discussion of how Mission Bay could be designed as a mitigation to the stadium. Because when we discuss Mission Bay, if we have a stadium, those issues are ones that we're going to have to face and it would be nice to have some information to base that decision on. (Commissioner Engmann)

. . . Perhaps in line with what Commissioner Engmann is talking about, as a mitigation there should be some discussion about Mission Bay, . . . [i]f . . . more housing and less office space, . . . would help the traffic situation. (Commissioner Bierman)

. . . We've had some great debates here about the intensity of use in both South of Market and Mission Bay, and we will continue to have those discussions.

My question goes to whether there is any modification or deduction in the uses in South of Market or Mission Bay that would significantly lessen the impact of a stadium and arena. (Commissioner Morales)

Response

In general, the configuration of the Mission Bay street grid in the EIR Alternatives and the South of Market Street grid is well-suited for distributing traffic from ballpark/arena events in an efficient manner. With six lanes for traffic, King Street would have the level of capacity that would be needed as one of the main access roads to both facilities, as well as providing a direct route to I-280. The roadway widths and regimented grid of South of Market Streets enable travel to disperse relatively quickly. Third Street in particular would provide an important north-south route leading to numerous freeway access points to the north, as well as a route to the south to access the Mariposa Street ramps of I-280. Except under Mission Bay EIR Alternative B, King Street is contemplated for development largely as a commercial street; under Alternative B, there would be housing along both sides of King Street. Alternatives A and B in Mission Bay both propose housing along Third Street, which would be adversely affected by heavy traffic without adequate design and/or sound insulation.

Because King Street would function as a major freeway access in the future, it is projected to carry high volumes of traffic with or without trips

attributed to the ballpark/arena, and would operate at congested levels. If Berry Street connected through to at least Seventh Street, it would be able to relieve impacts on King Street by providing a parallel route. Beyond the Mission Bay boundaries, the utility of Berry Street as a distributor street would be further enhanced since it extends through to connect with DeHaro Street. Berry Street would be a particularly attractive alternative to drivers traveling in the westbound direction who are not destined to extreme congestion otherwise projected for the intersection of Seventh and Townsend Street following ballpark/arena events such as those enter I-280, and also would relieve analyzed in the SEIR. To the extent this occurred, residential uses along Berry Street under Alternative B would be affected by increased traffic and noise. The remainder of Mission Bay's street network is designed to discourage through traffic.

With regard to the question of whether altering the mix of housing and commercial space in Mission Bay or South of Market could mitigate traffic conditions, existing analysis in the Mission Bay and South of Market EIRs indicates there would not likely be a large enough difference created within either area itself to offset substantially the impacts generated by ballpark/arena and cumulative traffic.

Table VI.E.26, on pp. VI.E. 167-VI.E.168 of Volume Two, VI.E. Transportation, of the Mission Bay EIR, presents intersection operating conditions for Alternatives A and B during the peak hour (4:30 to 5:30 p.m.); intersection service levels in the South of Market area are presented on p. 125 of the South of Market EIR. When discussing cumulative traffic impacts, even considering vastly different programs for Mission Bay yields only a limited difference in impacts. With Mission Bay Alternative A (with 7,700 housing units and over eight million square feet of commercial space at full build-out), the intersection of King and Third, for example, would operate at Level of Service F. With Alternative B (containing 10,000 housing units and about 1.5 million square feet of commercial space at full build-out), the Level of Service for King and Third would be E. (Those projections do not consider the effects of mitigation measures.) The South of Market Plan, as shown in its EIR (projecting an increase of about 1.1 million square feet of commercial and industrial space), would have a more limited effect in the context of cumulative impacts than Mission Bay. Traffic conditions would not differ greatly because the majority of trips at major intersections such as King and Third Street would

be generated by travel from the rest of the downtown area. Differences in the South of Market or Mission Bay land use programs would result in even smaller changes in traffic operating conditions at more distant intersections from the ballpark/arena, such as those further to the north that feed onto a freeway.

Furthermore, with the particular scenarios evaluated in the SEIR, the differences in the number of trips between Mission Bay land use programs or South of Market would largely be overwhelmed by the number and concentration of trips generated from the ballpark/arena sites. The local intersections projected to be congested in the SEIR are directly adjacent to the ballpark or arena sites. Thus, the impacts on adjacent intersections of such potentially large generators (as dictated by the ballpark/arena event scenarios analyzed) could not be mitigated solely by altering land uses on dispersed sites over the larger Mission Bay Project Area.

Comment

While the analysis shows hours of congestion expected from cumulative impacts at the regional highway screenlines, it should also indicate the expected levels of service. In addition, it would be helpful if the tables showed the percentage of traffic contributed by the proposed projects at the screenlines during the p.m. peak hour. (Susan Pultz, Metropolitan Transportation Commission)

Response

"Congestion," as defined in the description of freeway conditions discussed on pp. 12-13 of the SEIR /52/, indicates when vehicle demand equals (or exceeds) capacity of the particular freeway segment being discussed. With a volume-to-capacity ratio of 1.0, the rough Level of Service equivalent would be E or F.

Given the event scenarios, it is not possible to provide a reliable estimate in this analysis of the percentage of peak-hour freeway trips that would be attributable to vehicle trips emanating from ballpark/arena events. That is because the peak volumes from afternoon or evening events would be expected to occur before (3:00-4:00 p.m.) or after (6:30-7:30 p.m.) the transportation-system peak hour (4:30-5:30 p.m.). Because ballpark/arena trips would be most likely to occur on either end of the afternoon commute period, the SEIR analysis estimates impacts in terms of the extended duration over which freeways would likely be operating at capacity.

Air Quality

Comment

Air quality impacts and analysis. The DSEIR does not quantify the emissions associated with the proposed stadium and arena. The DSEIR needs to identify what the emissions would be from the projected trips in terms of tons/day, not the percent increase. The DSEIR refers to the air quality and transportation sections of the DEIR for Mission Bay. It is our interpretation that the traffic and air quality analyses identified in the DEIR are based on the years 2000 and 2020. The stadium and arena developments are assumed to be built by 1995. Therefore, the proposed changes have not been considered in the original analyses and should be identified in the DSEIR.

The DEIR for Mission Bay identified the emissions per alternative for the years 2000 and 2020 in tons/day:

<u>Pollutant</u>	<u>Year 2000</u>		
	<u>Alt. A</u>	<u>Alt. B</u>	<u>Alt. N</u>
CO	5.6	1.8	2.3
HC	0.17	0.0	0.02
NO _x	0.29	0.08	0.10
SO ₂	0.05	0.02	0.02
PM ₁₀	0.27	0.11	0.13

<u>Pollutant</u>	<u>Year 2020</u>		
	<u>Alt. A</u>	<u>Alt. B</u>	<u>Alt. N</u>
CO	15.0	8.5	9.6
HC	0.57	0.30	0.33
NO _x	0.85	0.46	0.53
SO ₂	0.13	0.07	0.08
PM ₁₀	0.78	0.37	0.44

The emissions from the proposed alternatives exceed the BAAQMD's significant threshold limits for indirect sources as identified in its guideline document for developing environmental impact reports. Any project which exceeds the threshold limits needs to incorporate mitigation measures to reduce the project's impact. The threshold limits, in tons/day, are listed below:

Bay Area Air Quality Management District Significant Threshold Limits in tons/day

CO	.275
HC	.075
NO _x	.075
SO ₂	.075
PM ₁₀	.075

These limits are similar to the significant threshold limits for new stationary sources. If a stationary source has emissions greater than the limits listed above, it would be considered a major new source and would not be permitted unless emissions impacts were fully mitigated.

Mitigation measures. The DSEIR refers to the mitigation measures identified in the DEIR for Mission Bay. The DEIR identifies proposed mitigation measures to reduce the projected motor vehicle emissions. Both the DEIR and the DSEIR need to identify the emissions reductions that will occur once these measures are implemented and compare these reductions to the expected increase. In addition, the DEIR and the DSEIR should discuss the impact these measures will have in reducing the increase of emissions relative to the BAAQMD significant threshold limits. If it is concluded that the air quality will still be significantly impacted, we recommend that this project not be certified until such time as the DEIR and the DSEIR identify measures to mitigate the project emissions.

In addition, Public Resources Code Section 21081.6 (Assembly Bill 3180) requires that, along with the adoption of an EIR, the lead agency also must adopt a monitoring and reporting program to ensure compliance during project implementation. We recommend such programs be included in the final EIR. (James D. Boyd, California Air Resources Board)

Response

The objective of the SEIR was to assess the effects of the stadium/arena as an addition to the cumulative baseline for evaluation of the Mission Bay Alternatives at a program level, not to evaluate in detail the project-specific effects of the stadium/arena. The latter would be subject to separate environmental evaluation on the sports complex, as its own review process proceeds. As the Comment notes, the Mission Bay EIR focuses on the years 2000 and 2020; the cumulative baseline was generated for those years (and the setting year 1985) only. For the purposes of a program EIR on the development of Mission Bay (the environmental analysis in the Mission Bay EIR assumes continuing cumulative growth in the City and the region through the 1985-2000 period, but does not quantify individual or collected components of that growth in any of the intervening years). Additional impacts of the ballpark and arena are also evaluated in this timeframe. The influence of the threshold limits is reflected in the mitigation measures presented on pp. VI.F.23-VI.F.25 of Volume Two, VI.F.

Air Quality, which address both the Mission Bay Project impacts and cumulative air quality impacts.

The Mission Bay EIR recognizes and states, as do recent certified San Francisco EIRs, that major projects such as office high-rises and mixed-use developments would produce unavoidable adverse cumulative air quality impacts, even after application of all the suggested feasible mitigation measures. Many mitigation measures cannot be quantified as to effectiveness. In San Francisco and the Bay Area, vehicles are a primary generator of emissions. Therefore, the types of mitigation measures that are most useful are those that encourage the use of carpools, vanpools and transit, and discourage single-occupant autos. The EIR impact analyses already incorporate travel assumptions that reflect a higher proportion of transit and carpool use for employees in downtown San Francisco and its vicinity (including Mission Bay and South of Market) than for employed travelers from the rest of the region. Mitigation measures proposed in both the Mission Bay and South of Market EIRs include measures for further reducing auto volumes and therefore air pollutant emissions: some examples are TSM (Transportation Systems Management) or TDM (Transportation Demand Management) Programs, extending MUNI light rail service, and transit preferential treatment.

A mitigation monitoring and reporting program would be carried out for Mission Bay, pursuant to law. Details of that program will not be provided in the EIR. Rather, they will be provided during the approval process, when the mitigation measures adopted as part of the Mission Bay project are identified. Specific mitigation measures for the air quality impacts of the sports complex would be considered during its separate environmental review if and as the approval process for that project proceeds.

Comment

. . . Air quality. Have you factored in the delay for automobiles, that they will be sitting with their cars running? That's a comment I've made in all the previous EIR's. (Commissioner Bierman)

Response

The commenter is correct in suggesting that idling of cars is one of the many factors that affect air quality. An exact calculation of concentrations at a specific location would also

include consideration of such factors as the direction of travel of all cars, location of idling cars and duration of idling, surrounding building configuration and meteorological conditions. Even given these data, there are no modelling programs or formulas that can estimate actual carbon monoxide (CO) concentrations with certainty. The analysis in this and other San Francisco EIRs is performed on a broader or more "macro" scale in order to gain an understanding of relative concentrations over an area and, more important, trends in air quality for a given area over time.

In brief, the calculations for CO in the EIR include two components, a local and a background concentration. The baseline or setting background component was based on the highest measured concentration at the Potrero Hill air quality monitoring station, where traffic volumes are minimal. It is assumed, therefore, that these data reflect area-wide or background concentrations rather than local traffic. The baseline local component was established through meetings with the Bay Area Air Quality Management District (BAAQMD) and review of data from the Potrero station, recent measurements at Sixth and Brannan Streets and information developed in the Downtown Plan EIR. The BAAQMD recommended using the Downtown Plan figures as a reasonably conservative baseline total for Sixth and Brannan Streets, the most heavily travelled of the South of Market locations, where vehicle idling is common during the p.m. peak hour. From these two numbers, the local component was derived. The analysis for other intersections in the setting year and all intersections in the future was then "scaled" from the Sixth and Brannan location.

This scaling is done by estimating a local component of CO based on a given location's proportion of traffic relative to Sixth and Brannan. The analysis requires assumptions about vehicle volumes and average vehicle speeds from which emissions are derived. (The rate of emission of CO is derived from factors developed by the BAAQMD, which are based on average speeds, and increases substantially as speeds decrease.) The analysis is conservative in that the Sixth and Brannan baseline intersection is the most heavily travelled in the area. Further, the analysis assumes a five-mile-per-hour traffic speed for each of the intersections with a projected Level of Service F, the lowest speed available in the BAAQMD's list of emission factors.

Thus, the analysis methodology in the South of Market EIR and the Mission Bay EIR, extended

to the SEIR, implicitly takes into account stop-and-go vehicular traffic by its assumption of a very low average speed. CO emissions per mile of travel rise steeply as speed drops, so the assumption of a very low average speed implicitly takes into account the times at which vehicles are idling.

The analysis applied a consistent formula based on conservative assumptions in order to model changes in air quality through the forecast period. While not specifically including all possible components which may affect air quality in the analysis, it is considered by the BAAQMD and other air quality experts to be an acceptable method for modeling current and future air quality conditions in San Francisco. The methodology provides a consistent means for depicting CO concentrations in the setting and forecast years and thereby observing relative changes in local CO concentrations over time.

Comment

Page 28 -- While statistically the worst-case meteorological phenomenon is confined largely to winter, personal experience and common sense shows we also get a few days of serious inversions during the late spring and early fall, as well. During baseball season. I do not feel the EIR adequately addresses this problem. (Marcia DeHart)

Response

The SEIR air quality analysis is based on the cumulative impacts presented on pp. VI.F.11-VI.F.20 of Volume Two, VI.F. Air Quality. That analysis of emission additions for all the criteria pollutants is on a yearly basis, averaging in emissions over all the seasons. The detailed analysis of roadside concentrations was, as is standard in San Francisco EIRs, for carbon monoxide (CO) only. Maximum concentrations of CO occur in the winter, during radiation inversions (caused by radiation from the warmer ground surface to the cold night sky), rather than in the late spring and early fall, during subsidence inversions (caused by the downward movement of cooler air masses toward the ground surface).

While poor air quality conditions for CO occasionally occur during late spring and fall, average air quality conditions during those seasons would not be worsened beyond the average fall/winter conditions assumed in the EIR analysis.

XV. Summary of Comments and Responses

Q. Sports Facilities

Comment

On page 29, a reference is made to "local background." Does this refer to local industry that affects air quality as opposed to the transportation element? (Gary Adams, Caltrans, District 4)

Response

"Local background" refers to the combined emission contributions of all local sources, both stationary and mobile, other than those from the traffic on the specific street(s) (or the specific intersection) being analyzed.

Comment

In these days of protecting our coast from oil drilling and oil spills and protecting our air from further pollution, I am horrified that by our actions tonight we may select an alternative in Santa Clara that encourages even greater dependence on automobiles.

In contrast, the proposed ballpark at China Basin is accessible by every public transit system in the Bay Area. The new ballpark at Second and King Street will actually result in lower emissions from automobiles as compared to Candlestick Park. (Richard Cohn)

Response

The SEIR notes that its air quality evaluation is conservative, in that it does not subtract existing emissions due to Candlestick Park from the regional totals. As the SEIR is a required prerequisite for approval of a Plan for Mission Bay, but not for the approval of the sports complex, the potential effects of a move by the Giants to Santa Clara would be the subject of review in a separate environmental analysis for the sports facilities, were that project to be pursued.

Noise

Comment

The next page [p. 6 of the SEIR], the increased congestion and noises from this is talked about, but I think it's pretty vague. Maybe, Barbara [Sahm] [will] feel that it's discussed further on enough, but that's a pretty general statement, I think. (Commissioner Bierman)

Response

The Comment was made in reference to a general statement made on p. 6 of the SEIR /53/ that ballpark/arena events would generate congestion and noise in surrounding areas. The magnitude of those impacts is described in a much greater level of detail in the SEIR on pp. 7-27 (transportation impacts) /54/ and pp. 29-31 (noise impacts) /55/. To provide further information on those topics, details of the siting and design of the two facilities would be necessary. Such additional analysis would be appropriately included as part of a separate, subsequent environmental evaluation to be conducted were a formal, more-detailed proposal for ballpark/arena facilities to be pursued.

Comment

[On] Page 30 [the Draft Supplement states:] "Under those circumstances, more levels in the 14-story South Beach residential complex could be exposed to direct-path crowd or loudspeaker noise."

It would be unbearable for residents living in these apartments. This area has been planned for housing development. Introducing a stadium/arena into this environment will undermine a decade of planning, construction, and future investment. . . .

[On] Page 31 [the Draft Supplement states:] "under Scenario Two, the additional traffic after stadium and arena events (after 10:00 p.m.) would increase the local Community Noise Equivalent Level (CNEL) and the day-night (L_{dn}) noise levels, and the additional traffic before those events (after 7:00 p.m.) would increase the local CNEL, thus making the areas north of China Basin Channel and possibly along portions of Third Street more incompatible for housing development than indicated in the Mission Bay Draft EIR, and potentially requiring further noise-reduction construction measures in housing development."

San Francisco needs to develop housing to reduce the pressure on existing neighborhoods and to provide additional housing opportunities for below market or "affordable" housing. Proposals that make housing "more incompatible" weaken the City's ability to meet what should be its number one priority -- housing development. (Jack Moore, Potrero League of Active Neighbors)

Response

These are Comments on the ballpark project itself, rather than on the Draft SEIR. Noise impacts of the ballpark would be evaluated in greater detail in any project-specific environmental review of that project, and taken into account in decision-making on it, should it be pursued further.

Comment

Page 30, second paragraph: Noise would affect the projected South Beach public park east of Second Street and the existing waterfront promenade and public access and fishing areas along the boat harbor breakwater. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Response

The third sentence of the first full paragraph on p. 30 of the SEIR /56/ is changed, as follows:

- *Also, if the stadium were not the same height around its entire perimeter (for example, if the outfield structure to the east of the field were open or lower than the structure at the home-plate end), some crowd or loudspeaker noise could have a direct path toward the east; i.e., toward the projected South Beach public park east of Second Street, the existing waterfront promenade and public access and fishing areas along the boat harbor breakwater, the Bay itself and the South Beach Marina, and toward the easterly end of the proposed Mission Bay open space in Alternative A (wetland in Alternative B).*

Comments

Page 29, "Noise." The DEIR does not discuss a very significant noise source, which consists of the noise made by crowds of up to 40,000 spectator[s] leaving the stadium at one time. This would be particularly of concern when evening games let out late at night when many people in the surrounding residential areas will be asleep.

On Pages 30 and 31, it talks about noise within the stadium. It does not talk about the effect of noise around the stadium, especially noise caused by 40,000 people leaving the stadium late at night after evening games. (Stephen L. Taber, San Franciscans for Planning Priorities)

Page 30 . . . [T]he net conclusion has to be that there are no mitigations for the stadium that will adequately reduce noise in residential areas, particularly during night games. In general, as city-dwellers, we are used to the sound of traffic. After wins at Candlestick, however, there is much horn-blowing and shouting as people drive away. What proposals will be forthcoming to ensure a quiet, orderly departure from the stadium and arena? (Marcia DeHart)

Response

The following paragraph is added after the first full paragraph on p. 30 of the SEIR /57/:

- An additional source of noise would be the crowds of up to 45,000 fans leaving the stadium after a baseball game. The impact would be greatest following a capacity night game, when many nearby residents would be asleep. Pedestrians themselves would be noisy as they left the stadium; motorists leaving garages and on-street parking spaces might blow their horns as they depart. Mitigations for these impacts, such as additional sound insulation in surrounding buildings, could be needed, and would be considered in any project-specific environmental review of a ballpark if the impacts were found to be potentially significant.

Comment

[On] Page 30 [the Draft Supplement states:] "Noise shielding (for example, a solid wall up to the roofline) could be imposed as a mitigating condition of project approval."

Did it ever occur to you that the residents enjoy the view from these apartments? The height limit along the Bay is 40 feet. That limit must be strictly enforced. (Jack Moore, Potrero League of Active Neighbors)

Response

Specific measures to mitigate potential noise impacts generated by the stadium/arena on residents in the area would be the topic of discussion in a separate environmental evaluation for the sports facilities. Similarly, that analysis would address the relationship of the two facilities to existing height limits. The ultimate disposition of adopted mitigation measures and height limit restrictions would rest with decisions made during a separate approval process for the sports facilities.

Urban Design

Comments

[On] Page 31 [the Draft Supplement states:] "The stadium, 100-150 feet in height, would be a massive structure compared to the one-to-two story maritime and other commercial/industrial structures now on the site."

The height limit along the Bay is 40 feet and should remain so. (Jack Moore, Potrero League of Active Neighbors)

Nobody seems to talk very much about esthetics but, I can believe that such a large bulky blob on the horizon would for certain severely detract from the attractiveness of the Waterfront area. Noise, dust, dirt, and overall pollution caused by such a large project, placed in such a very, very tight space, can only be imagined. Anyone trying to live in the area would surely want to move away. (Arthur Belnick, Automobile Procurement Corporation)

It says . . . and I am quoting from the report: There would be a massive structure compared to the one- to two-story maritime and other commercial structures now on the site. It could be the single tallest structure in the area, visible from many points in Mission Bay, the downtown, and South of Market area.

It does not tell what to do about this. This is strange in a city where height limits have been a planning concern of the Planning Commissioners and of this Commission. . . . (Bruce Burdick, South Park Improvement Association)

Response

The Response under "Public Plans and Policies" on pp. XV.Q.12-XV.Q.13 includes new text to be added to the SEIR that acknowledges that the ballpark would not conform with existing height limits. A general description of the impacts of a structure of that height and bulk is presented on p. 31 of the SEIR /58/. However, because that discussion neglects to acknowledge the China Basin Building, the following sentence is added after the second sentence of the first paragraph under "Architectural Resources and Urban Design" on p. 31 of the SEIR /58/:

- The 76-foot-tall China Basin Building just west of the ballpark site also is visible from these points.

Detailed analysis of the stadium in relation to height limits and view impacts would be subject

to further study in a separate environmental evaluation for the sports facilities were a formal program and project design to be pursued.

Comment

. . . On Page 2, not about traffic, but it talks about height limit, 100 and 150 feet. Further on in the document there is a very short discussion of view impact, but I think that our usual custom is to have at least a very sketchy -- I know there will be further Environmental Impact Reports, but I think once you mention this height, you should do some kind of view of what that height will do, photographs and some discussion. . . .

Further on page [4], again about height. We should talk about what views are affected. It does not deal with that. (Commissioner Bierman)

Response

Visual impacts of the stadium are best seen by reference to photographs in VI.I. Architectural Resources and Urban Design, in Volume Two of the Mission Bay EIR. All citations of figure and page numbers in the following discussion refer to that volume.

The existing view from one high point on Potrero Hill is shown in Figure VI.I.2, p. VI.I.9. In that view, Building "16", the China Basin Building, stands out, with dark walls and a white roof. The stadium would appear directly beyond the China Basin Building toward The Embarcadero to the east, and also toward the north (left), extending to about the northerly edge of the I-280 stub, extended. Were the stadium, which could be almost twice as tall as the China Basin Building, to be built before any of the Mission Bay structures, it would block views of the water between The Embarcadero and the southerly end of Yerba Buena Island, between that end of the island and the Bay Bridge anchorage.

The future view from the same vantage point, showing the effect of developing Mission Bay to its assumed height limits, appears as Figure VI.I.5, p. VI.I.29. That view shows that the 110-foot-high Mission Bay buildings would themselves block views halfway across the water toward the southerly end of Yerba Buena Island in the area north of the China Basin Building, but would not block views of the water directly east of the China Basin Building. Therefore, the stadium itself could have the predominant impact in the Bay sector directly east of the China Basin Building, and could complete the blocking of water views north of that sector and up to the Bay Bridge anchorage on Yerba Buena Island.

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In Figure VI.I.4 (existing views), p. VI.I.16, Viewpoint 4, the stadium would appear to the right of the China Basin Building and could appear almost twice as high. However, in Figure VI.I.9 (Mission Bay developed), p. VI.I.48, the stadium would not be visible behind the building on the east side of Third Street (the right side of the photomontage) in either Alternative A or Alternative B.

The stadium would likely stand out most in views from the proposed open space south of the channel east of Third Street (OS-1, Alternative A, mapped in Figure VI.I.12, p. VI.I.58; OS-2, Alternative B, mapped in Figure VI.I.13, p. VI.I.63). An oblique photomontage across the channel for Alternative A is shown in Figure VI.I.8, p. VI.I.46; the buildings on the north side of the channel are eight stories. The stadium, directly across the channel from the proposed open space, would be more imposing, because the stadium could be as much as 40 feet taller than the eight-story Mission Bay buildings, and also because the view would be direct (head-on).

The above discussion is a general description of possible impacts. It is possible for a ballpark design to include walls of varying heights (e.g., the bleacher seats over the outfield could be lower than reserved seats). The resulting impacts on views could vary as a result. Detailed analysis of this issue would be part of a separate environmental review were a formalized proposal for a ballpark to be pursued.

Comments

[On] Page 32 [the Draft Supplement states:] "Light sources can also annoy people at night when the light source is not viewed directly. Where intense lighting is viewed against a dark background the contrast attracts the attention of the viewer and could be considered annoying."

The residents of South Beach and Mission Bay will be severely annoyed!

[On] Page 32 [the Draft Supplement states:] "In addition to being annoying, this can create unsafe night-time conditions for drivers and pedestrians."

How will the vision and safety of drivers crossing the Bay Bridge during a night game be affected, beyond the need for "extra concentration"? (Jack Moore, Potrero League of Active Neighbors)

Page 33, paragraph 4: New lighting could be visible and annoying to residents of South Beach

and the Rincon Hill housing developments. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Page 33 -- In Glen Park, the sky glow from Candlestick night games creates sufficient glare that it interrupts sleep. Candlestick is nearly 2 miles away from me, and Doublerock Hill protects us from the worst of the problem. The light impacts on Potrero Hill and the new residential neighborhoods cannot help but be worse than the EIR makes clear. (Marcia DeHart)

Response

The extent to which the vision and safety of drivers crossing the Bay Bridge during a night game would be affected would be determined by the specific design of the ballpark lighting system and by the atmospheric conditions at the time. Lighting system design features (not yet specified in detail) include the intensity of the lights, their numbers and horizontal and vertical orientation, and the extent to which their beams are concentrated onto the playing field (as opposed to dispersing in undesired directions). Atmospheric conditions include the clarity of the air. In clear air, the direct escaping beams would travel the greatest distances; on the other hand, fog, smog and suspended particles in the air would attenuate the direct beams, but scatter the light so that it would appear to a driver as a wider source. Effects on drivers on the Bridge and elsewhere would be expected to be considered in the specific environmental review of the ballpark, if and as the approval process for the sports complex proceeds.

Everything else being equal, the effects of the ballpark lighting system would be greater on the closest residential areas to a China Basin ballpark than they are to the residences closest to Candlestick Park. This is because the upper stories of some of the South Beach housing, and of the Mission Bay housing across Third Street (in Alternative B), would be closer to the ballpark lights than are residences near Candlestick Park.

Comment

It seemed to me that the mitigation measures relating to the lights are somewhat conclusory in the impact of those lights at night. And I'm wondering if the mitigation measures proposed relating to the stadium lights conform to major league baseball requirements regarding lighting. (Commissioner Morales)

Response

Until a specific design for the stadium is available, it is not possible to specify the degree of glare and reflectivity that would be created from ballpark lighting. The statements in the SEIR regarding possible mitigating factors are based on information supplied by lighting-design experts at HOK Sports, an architectural and engineering firm that has designed numerous sports facilities in the United States, and engineers at Flack & Kurtz, electrical engineering consultants to HOK. As many of the lighting options described in the SEIR have been installed in sports facilities, they are known to be able to meet major league standards, where applicable./59/ A detailed discussion of lighting impacts and mitigating measures would be included in a separate environmental evaluation, conducted were a formalized proposal for a ballpark to be pursued.

Comments

It [p. 5 of the SEIR] talks in the next paragraph about Mission Bay open space on the east side of Third Street. I think there is also open space south of where I think this is, on the west side. Would you please discuss -- I don't think there must be much shadow impact because this is north of it. But would you discuss if there is any wind effect on any of the open spaces proposed or existing and how that would be mitigated, if it can be mitigated. . . .

The last thing. I think we should have some shadow studies even of presumed building of this size with whatever shape the developers of the stadium want to use. But we don't usually pass things like this without showing some kind of a shadow impact. (Commissioner Bierman)

There is no discussion about the impact of the proposed stadium on the Mission Bay park which would be right across the channel from the stadium, both from the standpoint of the height of that facility, 150 feet approximately, and also from the standpoint of the shading, shadowing effect -- would it violate Proposition K?

Page 5, Second Full Paragraph. The DEIR mentions that the proposed Mission Bay open space would be directly across China Basin Channel from the stadium. It should describe the adverse visual, wind channelling and, possibly, shadow impact on that open space. It should also describe the shadow impact on the planned Redevelopment Area park, to be located due east from the stadium. . . .

Page 32, paragraph 1: The proposed stadium would cast new significant shadows on the projected South Beach public park east of Second Street, on the waterfront promenade, and on the public access and fishing areas on the boat harbor breakwater. These shadows would appear to be cast during periods of peak park usage. New significant shadows may also be cast on the public open space of South Park and on the required open spaces of the residential developments in South Beach. (Stephen L. Taber, Rincon Point - South Beach Redevelopment Area Citizens Advisory Committee)

Page 31 -- As the EIR rightly points out, until a design is in hand, we cannot know what the wind and shade impacts on surrounding areas will be, so no mitigations can be proposed. Realistically, once the project reaches design stage, it will be unstoppable. What, then, will be the incentive for the developer to incorporate adequate mitigations (if, indeed, such mitigations exist)? (Marcia DeHart)

Response

On pp. 31-32 /60/, the SEIR describes the potential visual impacts of the stadium, "visible from many points in Mission Bay, the downtown, and the South of Market area, as well as from more distant neighborhoods such as Potrero Hill." The open space across the channel from the stadium site (OS-1 in Alternative A, OS-7 in Alternative B), would be one of these vantage points. See, for example, the Mission Bay EIR, Figures VI.I.8 and VI.I.9, pp. VI.I.47 and VI.I.49, respectively, of Volume Two, VI.I. Architectural Resources and Urban Design, which show views of existing and proposed Mission Bay mid-rise structures, as seen from proposed Mission Bay open space sites.

Wind channeling has its greatest impact immediately at the base of a high-rise building. At a maximum height of 150 feet, the stadium would have less impact immediately at its base than a typical San Francisco high-rise building; in addition, the closest portion of the open space would be of the order of 250 feet away, across the channel.

The stadium would be almost due north of the open space east of Third Street. Therefore, it would not, even in the very early morning or the very late evening in June, cast a shadow on that open space. Some of the strip of open space south of the channel west of Third Street might receive shading from the stadium in the early morning hours in June; such shadows would

overlap those from the Lefty O'Doul Bridge and the China Basin Building.

The stadium would add to shadows on the planned Redevelopment Area park, and the South Beach marina, in much of the afternoon and on summer evenings. Maximum shadow lengths would occur on December afternoons and summer evenings.

As noted in earlier Responses and on p. 1 of the SEIR /61/, the SEIR is not the environmental review document required for approval of the stadium. Were City decision-makers to consider approval of the sports complex, detailed shadow analyses would be required, and mitigation of the shadow impacts of the stadium would be a consideration in the decision-making process. The SEIR concentrates primarily on stadium/arena effects that relate to cumulative impacts.

The following is added after the second sentence of the first paragraph on p. 32 of the SEIR /62/:

- Areas shaded could include the projected South Beach public park east of Second Street, the waterfront promenade, and the public access and fishing areas on the marina breakwater. At other times, the stadium might shade more distant open-space areas.

Cultural Resources

Comment

Although the area of the proposed project has been heavily developed since the nineteenth century, the presence of Native American cultural resources is a likelihood which should be addressed in any environmental document from that part of the Bay Area. The entire Bay area was occupied for centuries by the Ohlone group of the Costanoan Indians. Nels Nelson, an archaeologist, identified and catalogued over four hundred villages, shell mounds, camping and harvesting sites along the shoreline of San Francisco Bay, San Pablo Bay, the Carquinez Straits and the Pacific side of the Peninsula between 1908 and 1912. These were primarily large, easily identifiable cultural/social sites.

Within the recent past there have been several archaeological sites discovered during the development of property which [had] been in use for many years and assumed to be free of cultural resources. There have been two such finds on Stevenson Street, one at the site of the present

Nordstrom's department store. An archaeologist was excavating the site at Fifth and Market Streets in search of a school building from the 1800's. He had gone to depth of fifteen feet below the level of the street. He made another excavation a short distance to the west and went down an additional several feet and discovered an old Costanoan Indian village site, dating back centuries. A similar site was discovered at Stevenson near First Street a short time before that.

A Costanoan burial was discovered during the excavation for a hydraulic lift at an Ordnance shop near Crissy Field at the Presidio. It was determined that it was a female, about thirty years of age at the time of her death, said to be approximately 726 A.D.

The shoreline of San Francisco Bay has changed over the past, the former shoreline is several blocks away from the Bay in many parts of town. China Basin, India Basin, Islais Creek, the area around Mission Rock have all been filled and built over, putting the former waterfront inland. The former village sites have been covered by soil from other parts of town, or dredged up from the Bay. The Stevenson Street sites are examples of that type of filling operation. The remains at the Presidio were discovered under fill used to create the present day shoreline. The soil at that burial site indicated that it was marshland during the early periods.

The California Environmental Quality Act, Appendix K, deals with the discovery of archaeological sites and the procedures to follow. It also contains the instructions to follow when human remains are found during any phase of development. (William Anthony Johnson, California Native American Heritage Commission)

Response

The Mission Bay EIR, on pp. VI.J.1-VI.J.21 of Volume Two, VI.J. Cultural Resources, contains an extensive discussion of cultural and historic resources in and around Mission Bay; detailed mitigation measures describing the procedure for handling site excavation activities and archeological discoveries are given on pp. VI.J.22-VI.J.27 of Volume Two. That investigation covers the proposed arena site. Were the ballpark to be under consideration by City decision-makers, it would be subject to additional environmental review including a site-specific archival survey and mitigation measures, if applicable. Appendix K of the

CEQA guidelines is advisory in nature. The cultural resource mitigations imposed by the Department of City Planning (a standard requirement) establish a comprehensive approach to archival research, site investigation, construction and excavation oversight, and resource retrieval that already has been applied successfully in other development projects in San Francisco.

Geology and Seismicity

Comment

[On] Page 36 [the Draft Supplement states:] "Should a major earthquake occur at a time when there were large crowds at the arena and/or stadium, the Mission Bay EIR's estimates of injuries and deaths would be expected to increase in at least the proportions of the population increases described above.

"However, the situation would probably be worse. In an earthquake, the presence of large excitable crowds, concentrated in one or two structures, could cause more panic, with resulting pile-ups of people, trampling, etc., than would be expected in conventional buildings."

In an area described as one of the worst in case of earthquake, and an EIR that states "the situation would probably be worse"; how can this proposal be taken seriously? The consequences are too severe. (Jack Moore, Potrero League of Active Neighbors)

Response

This is a Comment on the stadium/arena project, not on data presented in the Draft SEIR.

Alternative Sports Facilities Proposals

Comments

Fails to provide complete information. The DS [Draft Supplement] fails to provide complete information about many impacts of the proposed stadium and arena. In preparing the response to this comment, it would be appreciated that complete information be provided responding to the following questions:

What are the impacts of alternative stadium and arena project configurations (one of which would include the construction of all the support

facilities necessary, i.e. parking, transit, streets, freeway interchanges, etc., to accommodate all the impacts from these projects on the immediate vicinity of the projects)? (John Bardis, Inner Sunset Action Committee)

What the environmental discussion overlooks and what the Environmental Impact Report overlooks is the examination of the principal alternative to building this ballpark in China Basin. And that alternative is the construction of a stadium for the Giants in Santa Clara on a waste dump site that is only accessible by automobile from a freeway. (Richard Cohn)

Response

The purpose of the SEIR analysis is to identify additional potential cumulative impacts of the most recently discussed ballpark/arena proposal, so that the full extent of cumulative impacts is considered by the public and decision makers in evaluating Mission Bay, which is a separate project. As a result, the SEIR has not evaluated alternatives to the ballpark/arena facilities described in the document. The appropriate avenue for analyzing alternatives to the China Basin location would be in a subsequent environmental evaluation, separate from the Mission Bay EIR process.

Comment

"The Small Business Bowl organization offers a 100% privately-funded, \$550 million downtown ballpark and National Small Business Sports, Convention & Trade Center, plus a solution to the Downtown San Francisco to Airport to Peninsula commute bottleneck."

"Besides the 45,000-seat ballpark, there are 5 major housing complexes with over 1,000 apartment units, 8 office/retail buildings including an entrepreneur R & D facility and International Trade Development center, a 20,000-seat soccer stadium, a 15,000-seat Sports arena, an Olympic Pool arena, a 375,000 square feet convention center, and 5,800 on-site parking spaces within the 3rd and Townsend complex. Provisions have been made for a medical clinic, grocery stores, theaters, dry cleaners, etc."

. . . It is ironic that Mayor Agnos' hasty attempt to suppress the SBB proposal by knowingly usurping the SBB proposal has backfired: Federal law requires that a supplemental draft EIS be performed. Further, additional statutes of the EIS law require that "Federal agencies

consider environmental effects fully, including alternative courses of action before reaching a decision to proceed with major Federal actions." In short, the purpose of the EIS process is to ensure the best deal for the taxpaying public. . . .

The Stadium / The Arena. See "News Release" for description of SBB [Small Business Bowl] proposal. It would appear that the SBB's 100% privately-funded Small Business, Sports, Convention, Housing & Transit Center would make "best use" of publicly-controlled land.

The size and capacities of the stadium and sports arena are approximately equal, but the SBB proposal offers parking for approximately 5,800 vs 2,000 vehicles.

Event Times. Due to the physical layout of the SBB proposal, light and sound would be restricted to an area within the designated site. The superior transportation capacity and facilities of the SBB proposal allow "open" scheduling of activities. Indeed, preliminary figures indicate that CalTrain's 35,000 seated passengers per hour, plus MUNI Metro's 16,000 seated passengers per hour will allow simultaneous scheduling of events - with the possible exception of a Giant's World Series. . . .

Implementation of the final design of Mission Bay will have a profound impact on the SBB area, as well as transit and parking conditions. San Franciscans are going to have to determine if they want the proposed "City Within a City" or a "International Trade, Ocean Commerce and Mixed Use Area."

. . . The future of San Francisco's residents depends on maintaining and increasing the diversity of jobs as well as striking a balance between space allocated to work and housing.

Construction of the Small Business Bowl will create the required political and economic balance necessary for the Small Business Community in San Francisco and the Greater Bay Area to be able to compete effectively with Big Business in the development of the Pacific Rim. . . .

The Small Business Bowl proposal provides facilities vastly superior to Mayor Agnos' ballpark/sports arena plan and thereby deserves full consideration by the public.

Thus, we ask that the Planning Department formally consider sponsoring the preparation of a Supplemental Draft EIR for the Small Business Bowl proposal in the immediate future. (Delmert C. Queen, Small Business Bowl)

Response

The Comments refer to a "Small Business Bowl," a development proposal in the area generally bounded on the north by Townsend Street, on the east by the Bay, and on the south by China Basin Channel. The western boundary falls parallel to, and between, Third and Fourth Streets. These boundaries do not coincide with the Mission Bay Project Area, which is the focus of analysis in the Draft EIR; the EIR Alternatives suggest different land use programs for a constant area. Similarly, the 12 land use variants studied in the EIR are confined within the Mission Bay Project Area.

At this point in the Mission Bay planning process, the preparation of a federal Environmental Impact Statement is not necessary, as there are no federal approvals required for the actions that would be contemplated by the City under the current EIR: amendments to the City's Master Plan, City Planning Code and Zoning Map, and adoption of a development agreement between the City and Santa Fe Pacific Realty Corporation. It is anticipated that various phases of development pursued over the build-out period of Mission Bay would require subsequent environmental evaluation to analyze construction details that cannot be identified at this time. Where such subsequent development activity triggered approvals from any federal agency, the environmental evaluation would have to meet all applicable provisions of the National Environmental Policy Act (NEPA), as well as state CEQA requirements.

It must be reiterated that the current SEIR under review does not constitute the environmental evaluation for the stadium/arena concept introduced by Mayor Agnos. As an extension of the Mission Bay and South of Market EIRs, the purpose of the SEIR is to disclose additional information on cumulative impacts, which must be considered by the decision-makers before approving any part of a plan for Mission Bay. Any alternative sites, design or configuration of a ballpark/arena complex, which constitutes a separate project, would have to proceed with an environmental evaluation separate from the Mission Bay EIR.

The Small Business Bowl proposal described by the commenter also is considered to be separate from the Mission Bay Plan, in that it is proposed for a different site. The fact that it is not analyzed in the Mission Bay EIR, however, does not preclude the proposal from being considered for review and approval. As for any development project, publicly or privately sponsored, environmental review is conducted by the Department of City Planning upon receipt of a

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completed application for such review. (It should be noted that a subsequent environmental evaluation would not assign all MUNI Metro and CalTrain capacity to serve project-generated trips, contrary to the implication in one of the commenter's statements.) Upon completion of environmental review, the project may then be considered for approval, based on the merits of the proposal.

Comment

Also, if we discussed Alternative C [Variant 11], which I think should be included in this supplement, then we are directly displacing open spaces proposed for the Seventh and Townsend site -- open space that is placed in such a way that it would serve not only the residents of Mission Bay, but also of the South of Market. (Ruth Gravanis, San Franciscans for Planning Priorities)

Response

If the arena were built at the Seventh and Townsend site, the open space proposed there in Variant 11 (EIR Hearing Proposal), as described and reviewed in XV.P. Alternatives and Variants, pp. XV.P.6-XV.P.26, would have to displace some other proposed use in that variant, or be lost. An analysis of associated impacts could be included in a separate environmental evaluation for the arena (if that project is pursued).

NOTES - Sports Facilities

- /1/ San Francisco Department of City Planning, South of Market Environmental Impact Report, EE 85.463, certified December 7, 1989.
- /2/ pp. XIV.M.9-XIV.M.31 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /3/ p. XIV.M.4 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /4/ pp. XIV.M.2-XIV.M.4 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /5/ p. XIV.M.2 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /6/ p. XIV.M.4 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /7/ pp. XIV.M.11-XIV.M.12 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /8/ p. XIV.M.12 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /9/ pp. XIV.M.2-XIV.M.4 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /10/ pp. XIV.M.11-XIV.M.13 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /11/ p. XIV.M.1 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /12/ p. XIV.M.4 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /13/ Figure XIV.M.1 on p. XIV.M.3 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /14/ pp. XIV.M.7-XIV.M.8 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /15/ p. XIV.M.5 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /16/ p. XIV.M.8 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /17/ p. XIV.M.5 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /18/ p. XIV.M.5 of Volume Three, Appendix M. Sports Facilities, in the Final EIR; paragraph added appears on pp. XIV.M.5-XIV.M.6 of Appendix M.
- /19/ Figures XIV.M.1, XIV.M.2, and XIV.M.3 on p. XIV.M.3, p. XIV.M.21, and p. XIV.M.24, respectively, of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /20/ p. XIV.M.40 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.
- /21/ Marlene Canard, Personnel Administrator, San Franisco Giants, letter, August 29, 1989.
- /22/ p. XIV.M.6 of Volume Three, Appendix M. Sports Facilities, in the Final EIR. Figure 1, p. 3, referenced in this change, appears as

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- Figure XIV.M.1, p. XIV.M.3, in the Final EIR. The paragraphs added appear on pp. XIV.M.6-XIV.M.7 of Appendix M.
- /23/*Note /4/, p. XIV.M.40 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /24/*pp. XIV.M.12-XIV.M.13 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /25/*p. XIV.M.13 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /26/*Table XIV.M.1, p. XIV.M.10 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /27/*Table XIV.M.3, p. XIV.M.14 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /28/*p. XIV.M.1 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /29/*City and County of San Francisco, Stadium Feasibility Analysis, A Study of Alternatives for a Stadium for the City of San Francisco, CA, 1983, Chapter B.5, Table 3.*
- /30/*Table XIV.M.5 p. XIV.M.17 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /31/*Table XIV.M.5, p. XIV.M.17 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /32/*p. XIV.M.12 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /33/*Figures XIV.M.2 and XIV.M.3 on p. XIV.M.21 and p. XIV.M.24, respectively, of Volume Three, Appendix M., in the Final EIR.*
- /34/*p. XIV.M.9 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /35/*p. XIV.M.27 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /36/*pp. XIV.M.13-XIV.M.14 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /37/*p. XIV.M.14 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /38/*p. XIV.M.29 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /39/*p. XIV.M.22 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /40/*p. XIV.M.23 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /41/*p. XIV.M.23 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /42/*Table XIV.M.7, p. XIV.M.22 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /43/*p. XIV.M.31 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /44/*p. XIV.M.30 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /45/*p. XIV.M.22 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /46/*p. XIV.M.30 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /47/*p. XIV.M.26 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /48/*p. XIV.M.31 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /49/*p. XIV.M.30 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /50/*p. XIV.M.29 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /51/*Information for this Response was provided by the following sources: Norman Stowe, Public Relations, B.C. Pavilion Corp., telephone conservation, June 1989; Karen Lampella, B.C. Stadium Events, telephone conversation, June 1989; Peter Jackson, Ticket Master, Vancouver, B.C., telephone conversation, June 1989.*
- /52/*p. XIV.M.16 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /53/*p. XIV.M.7 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /54/*pp. XIV.M.9-XIV.M.31 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /55/*pp. XIV.M.33-XIV.M.35 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*
- /56/*p. XIV.M.34 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.*

/57/pp. XIV.M.34-XIV.M.35 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.

/58/p. XIV.M.36 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.

/59/Randy Dvorak, HOK, telephone conversation, March 16, 1989; and Helen Diemer, Flack & Kurtz, telephone conversation, July 14, 1989.

/60/pp. XIV.M.36-XIV.M.37 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.

/61/p. XIV.M.1 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.

/62/p. XIV.M.36 of Volume Three, Appendix M. Sports Facilities, in the Final EIR.

STAFF-INITIATED TEXT CHANGES FOR SPORTS FACILITIES

Draft SEIR (as reflected in Volume Three, Appendix M. Sports Facilities)

Some copies of the Draft SEIR were issued with misprinted pages. In these copies, "Mission Bay Draft Arena" appears in the first sentence of the first paragraph on p. 1 (p. XIV.M.1 of Volume Three, Appendix M. Sports Facilities, in the Final EIR) and in the first sentence of the third paragraph on this page. This typographical error is corrected to "Mission Bay Draft EIR." Also in these copies, "Arena Alternative A," which appears in the first sentence of the fourth paragraph on p. 1 (p. XIV.M.1 of Volume Three, Appendix M. Sports Facilities, in the Final EIR), is corrected to "EIR Alternative A."

To update the status of this sports facilities proposal (in all copies of the Draft SEIR), the five paragraphs under the heading "Introduction" on pp. 1-2 (pp. XIV.M.1-XIV.M.2 of Volume Three, Appendix M. Sports Facilities, in the Final EIR) are deleted and replaced with the following:

- After publication of the Mission Bay Draft EIR in August 1988, Mayor Art Agnos released an invitation for proposals for a stadium to be located on the block bounded by Second, Third and King Streets, and San Francisco Bay; and an indoor arena complex at Seventh and Townsend Streets. Additional cumulative impacts potentially associated with those two facilities were the subject of a supplement to the EIR, published in

March 1989. The ballpark concept was subsequently defeated by San Francisco voters in November 1989.

Neither of the facilities was included as a component in a development proposal for Mission Bay. However, the proposed arena site is located within the current Mission Bay Project Area boundaries; if an arena were approved, those boundaries would be modified to exclude the arena site.

Because of the potential magnitude of activity that would be posed by these two developments and their close proximity to the Mission Bay Project Area, additional environmental evaluation was required to supplement the cumulative impact analysis presented in the Mission Bay Draft EIR. This was necessary to ensure that implications of the two facilities as they might affect surrounding areas, and city or regional systems, were adequately accounted for in the cumulative analyses. The focus of the supplemental environmental analysis (presented below) therefore does not address specific design or program details of the stadium or arena; those types of issues would be subject to separate environmental review if a detailed program were ultimately defined.

To evaluate a scenario with adverse conditions that would be reasonably likely to occur, the primary stadium/arena analyses assumed the presence of the land use program described in EIR Alternative A in the Mission Bay Project Area. For purposes of the analysis, it was assumed that the Mission Bay S/LI/RD land uses at Seventh and Townsend Street in Alternative A would be consolidated with other S/LI/RD uses elsewhere in the Project Area to allow the proposed arena to occupy that corner.

The stadium/arena facilities were assumed to be completed in 1995. In most cases when a time horizon is applicable, the analyses below evaluate cumulative impacts in year 2000, because there is an extensive body of information on cumulative impacts available for this timeframe. In a few instances where the stadium/arena would have identifiable impacts beyond 2000, they are discussed accordingly.

Similarly, to reflect the current status of the sports facilities proposal, the first paragraph under the heading "Project Description" on p. 2 (p. XIV.M.2 of Volume Three, Appendix M. Sports Facilities, in the Final EIR) is deleted and replaced with the following:

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Q. Sports Facilities

- Few details about the stadium/arena design, operation or programming were known at the time of the supplemental environmental analysis. However, general parameters are identified below for each of the facilities, which established the bases for the impact analyses presented herein.

On p. 18, the source for Figure 2 (Figure XIV.M.2, p. XIV.M.21 of Volume Three, Appendix M. Sports Facilities, in the Final EIR) is changed to:

- Environmental Science Associates, Inc.; Barton-Aschman Associates, Inc.; and Robert L. Harrison**

On p. 20, the second sentence of the note in Figure 3 (Figure XIV.M.3, p. XIV.M.24 of Volume Three, Appendix M. Sports Facilities, in the Final EIR) is revised to state:

- On-street parking spaces in residential areas were not counted in the inventory of parking spaces assumed to be available for the stadium/arena.

The source for Figure 3 is changed to:

- Environmental Science Associates, Inc.; Robert L. Harrison ; and Robert Reeves**

On p. 32 (p. XIV.M.37 of Volume Three, Appendix M. Sports Facilities, in the Final EIR), the fourth sentence in the third paragraph is amended, as follows:

- Generally, stadium lamps are of high intensity, can have considerable beam widths, and are oriented about 22 degrees to 45 degrees down from the horizontal, so the light from several lamps can be visible at the same time from many off-site areas within the viewshed.

Volume One - Chapter I. Executive Summary

The following is added to p. I.5, after "Variations on Alternatives":

- SPORTS FACILITIES**

A supplement to the Mission Bay EIR evaluated additional cumulative impacts associated with a proposal for a ballpark and arena announced by Mayor Art Agnos after publication of the Draft EIR. The proposed sports facilities included a 45,000-seat ballpark northeast of the Project Area, and a 20,000-seat arena within Mission Bay

boundaries. Transportation, land use and employment, noise, air quality, urban design, and seismic impacts were evaluated for two scenarios. The ballpark concept was defeated by San Francisco voters in a ballot measure in November, 1989.

Volume One - Chapter II. Highlights & Conclusions

The following is added to the end of "Variations on Alternatives":

- SPORTS FACILITIES**

A supplement to the Mission Bay EIR evaluated additional cumulative impacts associated with a proposal for a ballpark and arena announced by Mayor Art Agnos after publication of the Draft EIR. The proposed sports facilities included a 45,000-seat ballpark northeast of the Project Area, and a 20,000-seat arena within Mission Bay boundaries. Transportation, land use and employment, noise, air quality, urban design, and seismic impacts were evaluated for two scenarios. The ballpark concept was defeated by San Francisco voters in a ballot measure in November, 1989.

Background & Approach

In March, 1989, a supplement to the Mission Bay EIR was published to evaluate additional cumulative impacts associated with a ballpark and arena proposal announced by Mayor Art Agnos after publication of the Draft EIR. The proposed sports facilities included a 45,000-seat ballpark northeast of the Project Area, and a 20,000-seat arena within the Project Area. Two conservative scenarios that would be reasonably likely to occur were analyzed: a baseball sellout during a weekday afternoon, and a weeknight baseball sellout combined with a 50% capacity event at the arena. The ballpark concept was defeated by San Francisco voters in a ballot measure in November, 1989.

For more detail on the supplemental environmental analysis of the sports facilities, see Volume Three, pp. XIV.M.1-5.

Transportation

More people would be expected to use public transit or travel modes other than private automobiles to attend events at the sports facilities than would be the case at Candlestick Park, due to more available public transit and more limited parking.

Intersections in the immediate vicinity of the sports facilities would be congested after weekday afternoon or before weeknight events. The sports facilities also would contribute to cumulative traffic congestion at intersections providing access to the I-80 and I-280 freeways. A weekday afternoon baseball sellout would contribute to cumulative congestion on regional freeways during the peak afternoon commute.

For the two scenarios analyzed, most impacts on public transit would occur during non-peak hours. MUNI would experience the greatest impacts following a weekday baseball sellout. There would also be additional demand on CalTrain, BART, SamTrans, AC Transit, and Golden Gate Transit.

With a weekday afternoon baseball sellout, parking within a 15-minute walk (one-half to three-quarters of a mile) would not satisfy demand. For the weeknight scenario, parking within a 15-minute walking distance would be adequate.

For more detail on transportation impacts, see Volume Three, pp. XIV.M.9-31.

Other Impacts

The sports facilities would displace existing commercial, industrial, and maritime-related businesses, and the Port of San Francisco maintenance facility at Pier 46B. The ballpark would be adjacent to the Rincon Point / South Beach Redevelopment Area, a developing residential neighborhood. Events at the sports facilities would introduce more intense activity into surrounding neighborhoods, which would be particularly noticeable during the evening.

Noise from events at the sports facilities, particularly the ballpark, would affect surrounding areas. Crowd and loudspeaker noise from the ballpark could be reduced through design. Crowd noise outside the facilities before and after events would be difficult to control. Noise from nighttime events would be the most noticeable. Increased local and regional traffic would affect air quality.

Balpark lighting could cause glare, and would be seen from long distances as well as from the immediate vicinity. Glare impacts would depend on ballpark design and the type of lighting used. The sports facilities also would cause wind and shadow impacts.

Both the ballpark and arena sites are located in an area subject to "violent" groundshaking in the event of a major earthquake. Should one occur when there were large crowds at one or both of the facilities, casualties could be substantial. Mitigation measures for seismic hazards could include special planning for crowd control and emergency response, and equipping the arena to serve as a mass care facility.

For more detail on land use and employment, noise, air quality, urban design, and seismic impacts, see Volume Three, pp. XIV.M.5-8 and 31-40.

A new figure, similar to Figure XIV.M.1, is added to this section in Volume One. This figure shows the location of the stadium and arena and has the following caption:

- **Figure II.76: Location of Sports Facilities.** In January, 1989, Mayor Art Agnos proposed that a ballpark and arena be constructed at Mission Bay. The additional cumulative impacts associated with those sports facilities were evaluated in a supplement to the Mission Bay EIR. The ballpark was turned down by San Francisco voters in November, 1989.



R. MISCELLANEOUS STAFF-INITIATED TEXT CHANGES

This section presents staff-initiated text changes for sections of the EIR on which no public comments were received.

VOLUME ONE - A USER'S GUIDE TO THE MISSION BAY EIR

The first sentence of the first paragraph, left-hand column, is revised to state:

- The Mission Bay Final Environmental Impact Report (EIR) describes environmental effects of three alternative development programs and twelve variations on them.

In the last sentence of this paragraph, "the Department of City Planning" is deleted. As revised, this sentence states:

- The EIR is divided into several elements to meet the needs of the many different people expected to use it.

In the second paragraph, left-hand column, "including project Alternatives and environmental impacts" is deleted from the end of the second sentence. As revised, this sentence states:

- The Executive Summary provides a brief overview of the EIR.

The following new paragraph is added before the last paragraph in the right-hand column:

- Volume Four (Summary of Comments and Responses) summarizes and responds to oral and written comments on the Draft EIR. Volume Four also contains revisions to the Draft EIR arising from responses to comments or staff-initiated text changes. Together, the revised Draft EIR (Volumes One through Three) and Volume Four comprise the Final EIR for Mission Bay.

VOLUME ONE - EXECUTIVE SUMMARY

On p. I.1, left-hand column, the first sentence under "Guide to the EIR" is revised to state:

- The Mission Bay Final Environmental Impact Report (EIR) is divided into four volumes.

The following new sentence is added before the last sentence of this paragraph:

- Volume Four summarizes and responds to oral and written comments on the Draft EIR. Together, the revised Draft EIR (Volumes One through Three) and the Summary of Comments and Responses (Volume Four) comprise the Final EIR for Mission Bay.

**VOLUME ONE - CHAPTER II.
HIGHLIGHTS & CONCLUSIONS
(REPORT AUTHORS)**

On p. II.115, under "EIR Consultants," left-hand column, two names are added. Before the names of the Lead Graphic Artists, the following name is added:

- S. Elizabeth Haines, Editor

The following name is added to the Lead Word Processors:

- Lisa Bautista, Cheryl Fowler, Georgette Simmonds: Lead Word Processors

Under "Project Sponsor," in the right-hand column on p. II.115, the suite number in Santa Fe Pacific Realty Corporation's address is changed, as follows:

- 201 Mission Street, Suite 202

In addition, the position titles following the names at the end of this address are deleted.

Also on p. II.115, right-hand column, the address of Roger Owen Boyer and Associates is changed, as follows:

- 1009 MacDonald Avenue, Suite 3
Richmond, CA 94801

**VOLUME ONE - CHAPTER II.
HIGHLIGHTS & CONCLUSIONS
(CONTEXT)**

The first full paragraph in the right-hand column on p. II.2 is corrected to state:

- The Mission Bay Plan, Proposal for Citizen Review includes: 7,700 to 7,960 residential units; 3.6 to 4.1 million square feet of offices; 2.3 to 2.6 million square feet of

service, light industrial, or research and development space; 300,000 square feet of retail space; 200,000 square feet for community use; 500 hotel rooms; a ballpark; and up to 78 acres of open space.

VOLUME TWO - TABLE OF CONTENTS

On p. xiii, the title of Table VI.E.17 is corrected, as follows. ("Hour" is already underlined in the EIR; the underline beneath this word in the following change therefore does not indicate a revision.)

- **P.M. Peak Hour Outbound Transit Riders at Screenlines, 1985 and 2020**

VOLUME TWO - CHAPTER III. BACKGROUND AND AREA DESCRIPTION

The last sentence of the partial paragraph at the top of p. III.5 is revised, as follows. (Mission Bay Plan is underlined in the EIR; the underline beneath this title in the following change therefore does not indicate a revision.)

- **The Mission Bay Plan proposal did not include land east of Illinois Street and south of the Eldorado Street alignment, though the EIR Project Area does./4/**

On p. III.10, the text of note /4/ is deleted and replaced with the following:

- **/4/ This was included in the Project Area analyses in the EIR so that a contiguous area between Third and China Basin Streets, which share many common public policy and land use issues, could be considered at an equal level of detail.**

VOLUME TWO - CHAPTER XIII. BIBLIOGRAPHY AND REPORT OUTLINE

In the third item on p. XIII.7, the word "Project" is deleted from the report title.

The word "Transportation" is added to the title in the last item on p. XIII.10, as follows. (Energy Data Book is underlined in the EIR; the underline beneath this title in the following change therefore does not indicate a revision.)

- **Oak Ridge National Laboratory, Transportation Energy Data Book: Edition 8, Tennessee, 1985.**

S. SUMMARY OF TESTIMONY RELATED TO THE MISSION BAY PLAN

INTRODUCTION

Not all of the public testimony given at the Draft EIR and Supplemental EIR public hearings and during the public comment periods raised questions about the Mission Bay Draft EIR. Some of it expressed a point of view or questioned aspects of the Mission Bay planning and development process. Because those types of concerns do not relate to the content or quality of the EIR, they do not require response under the California Environmental Quality Act. However, to ensure that all testimony is considered by the City Planning Commission, remarks related to issues other than the EIR itself are summarized in this section.

Testimony concerned with suggestions for Mission Bay or dealing with the Mission Bay planning and development process is addressed in "Overview and Update of the Mission Bay Planning and Development Process," the first part of this section. It summarizes the history of the Mission Bay planning and development process, and highlights future stages and steps, including further opportunities for public participation. That subsection includes a chronology of the planning process to date, and updates the discussions of the development agreement process, anticipated Master Plan and zoning actions, and Mission Bay's relationship to Proposition M.

"Summary by Topic of Testimony Expressing Views on the Mission Bay Plan" first presents testimony on land use, business activity and employment; housing and population; community services and infrastructure; transportation; hazardous wastes; and sports facilities. (Some of this testimony may also be addressed also in Responses in the appropriate section of EIR-related Comments. Comments related to the EIR analysis of those topics and detailed Responses to them comprise Sections XV.B., XV.C., XV.D., XV.E., XV.L., and XV.Q, respectively, of this document.) Testimony on the project planning and approval process, and Mission Bay Alternative selection and development follow.

A list of the persons whose testimony on issues other than the adequacy of the EIR is included in this summary concludes this section.

**OVERVIEW AND UPDATE OF THE MISSION BAY PLANNING
AND DEVELOPMENT PROCESS**

Chronology

Plans for the development of Mission Bay have evolved over the past eight years. A brief chronology of that evolution is as follows:

- In 1981, Southern Pacific Company (SP) developed the first plan for Mission Bay and presented it informally to the City without the benefit of prior consultation with either City staff or community groups.

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- SP submitted a second proposal for Mission Bay in 1983, following some City and community consultation, but withdrew it when substantial public opposition was encountered at public hearings on the proposal. Three alternative plans were offered by community groups as alternative visions for Mission Bay during the public debate over SP's proposal. Those alternative plans were presented by the Mission Creek Conservancy, San Francisco Tomorrow, and the Potrero League of Active Neighbors.
- Then-Mayor Dianne Feinstein and Santa Fe Pacific Realty Corporation (SFP), successor to SP by corporate merger, reached a tentative understanding in 1984 on guidelines for a land use program for Mission Bay that the Mayor would support (Mayor's Letter).
- In 1985, the Department of City Planning (DCP), with funds contributed by SFP, initiated an open public planning process for Mission Bay to solicit input from interested community participants, SFP, and public agencies.
- The DCP planning process began with a public scoping meeting and a two-day workshop which included representatives of all interests working at drafting tables to create conceptual plans for Mission Bay (September 1985).
- The Department and its consultants prepared an analysis of prior developer and community plans and information developed for Mission Bay. That effort resulted in the Draft Background and Preliminary Findings Report (November 1985). The analysis in that report was reevaluated in a variety of community meetings during the course of the planning.
- During 1985 and 1986, DCP prepared Choices for Mission Bay (June 1986), a report presenting a range of possible planning approaches to Mission Bay development issues and three design concepts integrating different land use programs and planning concepts. The report was refined through an extensive community pre-publication review process and public hearings.
- A public scoping meeting on the EIR was held November 12, 1985.
- During 1985 and 1986, DCP produced Objectives and Policies (September 1986), which outlined goals for Mission Bay development. The document was refined through an extensive community pre-publication review process and public hearings.
- During 1986, DCP developed the three Alternatives and ten variants to be analyzed in the EIR in consultation with community groups and SFP. The EIR analysis of the Alternatives and variants is designed to provide information on the impacts of a range of Mission Bay development scenarios. That enables the impacts of modifications to any one development concept to be extracted from existing analyses and understood without having to be reanalyzed independently.
- DCP published about 20 Special Studies on various topics in fall 1986 and presented these reports at public hearings to provide additional information for the planning process.
- In January 1987, DCP published the Mission Bay Plan - Proposal for Citizen Review, a land use plan and program developed with the benefit of a variety of forms of input from and consultation with citizens, agencies, and SFP, and held public hearings and solicited input from the community, public agencies, and SFP.
- The City and SFP began negotiation of a development agreement for Mission Bay in late 1987.
- DCP published the Mission Bay Draft EIR on August 12, 1988. The public comment period extended from August 12, 1988 to November 21, 1988. Public hearings were held on the EIR on September 22, October 6, October 27, and November 10, 1988.
- The Mission Bay Clearinghouse proposed an alternative land use program in November 1988, and requested that it be added to the EIR to expand the Alternatives and variants analyzed in the Draft EIR.

- On March 17, 1989, a Draft Supplement to the Mission Bay Draft EIR was published to evaluate additional cumulative impacts associated with a ballpark and arena proposal announced by Mayor Art Agnos earlier that year. The public comment period for the supplement extended from March 17 to April 18, 1989. A public hearing on the supplement was held on April 20, 1989.
- SFP submitted a development agreement application and plan to DCP on May 1, 1989. The application and plan were based on, and derived from, the 1987 DCP Plan (Mission Bay Plan - Proposal for Citizen Review), and incorporated modifications agreed to by DCP and SFP during the course of the development agreement negotiations. The City Planning Commission held public hearings on the application in June and December 1989.
- The EIR Hearing Proposal and Development Agreement Application were each incorporated into the Mission Bay Summary of Comments and Responses as variants (Variants 11 and 12, respectively), though their uses and impacts fall within the range of impacts of the Alternatives and variants covered in the Draft EIR.
- Oral and written comments received on both the Mission Bay Draft EIR and on the Draft Supplement to the Mission Bay Draft EIR are summarized and responded to in this volume (Volume Four, Summary of Comments and Responses).

Mission Bay Development Agreement Process

The development agreement negotiations between the City and SFP, initiated in 1987, continue. Development agreements are authorized by state law as a means of providing developers of staged developments with greater certainty that they will be able to complete their developments as planned and initially approved. In return, the responsible public agency is entitled to negotiate for and obtain from the project sponsor greater public benefits than the agency would otherwise obtain.

The City adopted development agreement procedures effective July 1988. The procedures require a formal application by the project sponsor, a public hearing immediately following the application, and a variety of opportunities for public input thereafter.

SFP filed its development agreement application with the City in May 1989 (Variant 12, analyzed in XV.P. Alternatives and Variants on pp. XV.P.27-XV.P.46, is based in part on the land use program contained in SFP's development agreement application). The City Planning Commission held public hearings on the application and the fee to be paid by SFP in June and December 1989. Pursuant to City ordinance, DCP has maintained a record of Mission Bay development agreement negotiations held since the July 1988 adoption of the development agreement procedures. The following actions are anticipated once an agreement is reached between the City's negotiating team and SFP, and a draft development agreement is prepared:

- The City will provide the draft development agreement for public review.
- The City will provide a comprehensive summary of the development agreement.
- DCP will publish a report summarizing the negotiations and providing relevant documents.

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- DCP will publish a fiscal analysis report on the fiscal implications of the development for the City.
- DCP will hold small group meetings in the community as appropriate to discuss particular aspects of the agreement.
- The City Planning Commission will receive public comment in writing and by public hearing, and will consider action on the draft development agreement and transmittal to the Board of Supervisors.
- The Board of Supervisors will consider action on the development agreement.

Master Plan and Zoning Actions

DCP will prepare the following Master Plan and zoning materials for consideration by the City Planning Commission and, where appropriate, the Board of Supervisors:

- The Mission Bay Specific Plan, a Master Plan "area plan" including the land use plan and development program, and implementing provisions such as urban design guidelines, a description of capital improvement and financing, and principles governing the sequencing of development;
- Amendments to the Central Waterfront Plan, an area plan of the Master Plan;
- Amendments to other Elements of the Master Plan, where appropriate; and
- Amendments to the City Planning Code and Zoning Map to provide appropriate zoning.

The above materials will be published in draft form for review by the public and consideration by the City Planning Commission in public hearings. The City Planning Commission is also expected to consider a subdivision map to be proposed by SFP. DCP will conduct small group meetings with the community on the documents as appropriate.

The City Planning Commission has final jurisdiction over the Specific Plan and other amendments to the Master Plan. The Board of Supervisors will conduct public hearings and consider action on the zoning amendments, subdivision map and related matters.

Proposition M

It is anticipated that a proposition will be submitted to the voters to exempt Mission Bay from the annual office limitation provisions of Proposition M. If passed, it would enable Mission Bay office development to proceed without reference to office development limitations in San Francisco. Without such an exemption, Mission Bay office development would have to compete with other office development proposals that are subject to the annual office allocation (presently 475,000 square feet) which may be approved by the City Planning Commission. That would likely reduce the amount of office space that SFP could develop annually in Mission Bay, and lengthen the period required to complete Mission Bay.

SUMMARY BY TOPIC OF TESTIMONY EXPRESSING VIEWS ON THE MISSION BAY PLAN

The following testimony, from transcripts and letters, is summarized and grouped by topic. Some of this testimony is paraphrased, and similar comments are combined.

Land Use, Business Activity, and Employment

Land Uses

- *Land uses proposed by the Alternatives should be modified.*

Some S/LI/RD in Alternatives A and B should be replaced with retail and other uses to increase community-accessible types of businesses, services and cultural facilities.

Alternative B's housing should be reduced from 10,000 to 7,700 units, or perhaps to 6,000 or a maximum of 7,000 units. This would significantly decrease the demand for services and the impact on the environment.

A supermarket should be provided to serve Mission Bay and surrounding areas.

16th Street should be turned into a major thoroughfare with shopping and retail facilities.

The amount of office space should be decreased.

Housing density should be reduced, and open space and wetlands should be increased.

- *Mission Bay should be integrated into the existing City fabric.*
- *Maximum housing should be provided on site to satisfy the need generated by all non-residential uses.*
- *Structures should be commensurate in size with the moderate scale of surrounding districts.*
- *A range of housing types should be provided.*
- *Neighborhood commercial zones should be provided within walking distance of residential districts.*
- *A scheme should be provided for protection of any buildings or sites with historic or architectural merit.*
- *Provisions must be made so that displaced industries can relocate to other San Francisco sites.*
- *Mixed-use structures should be developed.*
- *The economic viability of surrounding areas must be maintained.*
- *There should be an aggressive housing policy for north of the channel in Mission Bay to prevent office sprawl from encroaching on the area.*
- *Decision-makers and the public should be informed of the increased land value that will result from alternative zoning actions so that the City can negotiate the trade-offs between different land uses. This information would also enable the public to make more informed comments on alternative selection.*

- Some proposed land uses in Mission Bay, e.g., commercial space, can be developed in areas other than Mission Bay, but others cannot be relocated or developed elsewhere.

Port Preservation and Expansion

- The Port should be preserved and expanded.
- Land east of Third Street must be devoted to port-related uses.
- The economy of the City demands that port use continue on the central and southern waterfront. Protecting the Port and building Mission Bay is feasible, economically justified, and strategically necessary.
- Wetland values should be balanced with port uses.
- A mixed-use development east of Third Street would prevent the "backlands" of Pier 50 from being used as a massive container yard.
- Existing port activities must be retained, and adjacent proposed uses must be compatible with current and future port activities.

Employment

- The construction industry generates employment and economic benefits. Mission Bay would generate employment in the construction industry and should be approved.
- Land uses will affect the kinds of businesses in Mission Bay and will therefore determine whether there are low- or moderate-paying jobs. For example, employment in back-office space pays less than employment at the Port or at warehousing. The City needs to be assertive with the project sponsor about what would be in the best interests of its citizens in the Mission Bay Plan.
- The choice among Mission Bay Alternatives would have no effect on regional employment and a minuscule effect on San Francisco employment. There is a difference of only 15,000 between the three Alternatives out of 500,000 jobs in downtown San Francisco in 2020. Employable San Francisco residents will have more than enough job opportunities under any Mission Bay Alternative. Therefore, employment should not be an overriding consideration for determining the make-up of the Mission Bay Plan.
- Mission Bay should provide employment opportunities to use the skills and abilities of San Francisco residents.

Implications of Development for Nearby Areas

- People in the Nearby Areas might be "kept out" of Mission Bay due to its inward pattern of development and inaccessibility.
- People in the Nearby Areas should have access to Mission Bay retail areas.

Housing and Population

Jobs/Housing Balance

- There must be a balance between employment and housing in Mission Bay.

- Alternative A would best provide this balance because it would provide jobs as well as housing.
- Alternative B would best provide this balance because it would have the most affordable housing and least employment growth to minimize long-distance commuting.

Housing Affordability

- There must be more affordable housing in Mission Bay.
- Thirty percent of Mission Bay housing should be low- and moderate-income units.
- Mission Bay is the last opportunity for a large-scale development in the City to reduce the current shortfall of affordable housing.
- The housing affordability crisis is likely to worsen over the next 30 years.
- Only 28% of the Mission Bay workforce would be able to afford housing in Mission Bay.
- Mission Bay should have enough affordable housing to meet the needs of its workers plus an additional 1,000 units to help meet the City's existing shortfall.
- To create more housing that is affordable:

Reduce the demand for housing by decreasing office development.

Make 50% of Mission Bay housing affordable as defined by the HUD income limit of \$32,000 and below for a family of four.

Develop an alternative that provides only housing or have the City subsidize more housing through eminent domain.

Community Services and Infrastructure

Open Space

- Ample open space should be provided for all users.
- The plans of Santa Fe Pacific and the City do not provide sufficient open space.
- Mission Bay is an opportunity to remedy the current problem of insufficient open space.
- The lack of open space in Alternative A is unacceptable.
- All land east of Third Street should not be devoted to open space. The balance of land uses in Alternative B is preferable and acceptable. The rest of the Project Area would be deprived of much-needed open space if all the open space were located east of Third Street, and a sterile, high-density environment would result.
- A network of pathways should be developed throughout the open space. Signs should be posted to indicate areas of special interest.
- An indoor interpretive center with a variety of educational exhibits should be constructed adjacent to the wetland.
- The open space system should be an integral part of Mission Bay design. The open space in Mission Bay should be well designed and of sufficient size and diversity to serve the entire community (workers, residents and visitors).

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- Playfields should be incorporated into the plan and sized to serve both the South of Market neighborhood and the new Mission Bay community. The fields should be located on the former stadium site for closer access to the South of Market site, and possibly in some other areas west of Third Street.
- Open space developed along Mission Creek should be connected with the open space east of Third Street to provide a continuous network of walking paths and viewing and sitting areas, as well as access to the waterways and other natural features of Mission Bay.
- Mission Bay's environment should reflect its unique location.
- Views from Potrero Hill should be preserved and height limits maintained along elevated highway view corridors.
- A variety of public open spaces should be created for active and passive recreation for both daytime and residential use. Public access to water should be considered over private uses (e.g., private backyards, marinas).
- Ample semi-private and private spaces (e.g., yards, terraces, roof decks, and/or balconies for each unit) should be created.
- The advantages of flat site development (e.g., arcades, canals, pathways, promenades) should be maximized.

Parks

- A major waterfront park should be located east of Third Street, along the bay side. This park should be available to residents of Nearby Areas and all San Francisco residents and visitors, not just Mission Bay employees and residents.
- Mission Bay Shoreline Park should be:
 - Soft-edged and thickly landscaped, with as much grass as possible;
 - Meandering in design and contrasting with the immediate area; and
 - Water-oriented, open to the sun, and irregular in design and topography.
- The shoreline park, including the open space along China Basin Channel, the 18-acre wetland, and the greensward by the Bay should be considered a unique feature of citywide interest and developed with that perspective in mind.
- The shoreline park described in the Proposal for Citizen Review is barely adequate and should be modified by:
 - Widening the channel and bayfront parks;
 - Increasing the wetland to take up the 17-acre port parcel; and
 - Moving the playing fields to the 17th/Townsend site.
- Creating a large park east of Third Street will cause adverse traffic, parking, and other related impacts on both the project and Nearby Areas.
- All parks in Mission Bay must have automated irrigation.
- Buildings near China Basin Channel open space should be located and designed so that they do not cast shadows on the channel parks.

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- *The northern bank of the channel should be straight and hard-edged to maximize water circulation.*
- *There should be plenty of trees in China Basin Channel open space, and existing pilings should be left in place or new ones added along the northern edge for feeding birds to perch on.*
- *The southern edge of China Basin Channel open space should be a gently sloping tidal bank that is planted with native salt marsh vegetation and that provides wildlife habitat.*
- *The boat/houseboat neighborhood, as well as the access and parking amenities serving that neighborhood, should be preserved.*

Wetlands

- *There must be a wetlands at Mission Bay.*
- *A wetland can be included at Mission Bay without compromising other uses. There are basically no urban design problems in providing a wetland at the site. It is possible to have a wetland and still keep Piers 48 and 50 fully functional.*
- *There should also be a wetland in Candlestick to serve San Francisco, particularly residents in the Bayview and Hunters Point areas. Travel in the City is time-consuming, and even a short distance of, for example, four miles is a barrier in getting from one place to another.*
- *According to the U.S. Fish and Wildlife Service, over 50% of adult Americans participate in wildlife-oriented outdoor recreation activities. That proportion is certainly higher in the Bay Area.*
- *Around San Francisco Bay, 90% of the wetlands have been lost; throughout the country, wetlands have decreased by 50%.*
- *New York, Los Angeles, Seattle, and Portland are restoring their wetlands or increasing their use.*
- *Wetland areas and wildlife refuges in the Bay Area are so much in demand that they have to turn visitors away. These areas are difficult to reach because of traffic congestion, and school trips to visit them are expensive.*
- *Wetlands offer an immediacy with nature and opportunities to observe nature, as well as recreational opportunities and educational and environmental benefits.*
- *Mission Bay is the last opportunity to provide wildlife habitat that is important to the Bay's ecosystem.*
- *Mission Bay is an historic wetland.*
- *Due to the Clean Water Program and lack of development, many shorebirds have returned, as have herring, harbor seals and California sea lions.*
- *A wetland park must be created in the region of Mission Creek to provide a hospitable environment for shorebirds, fish and marine mammals.*
- *A wetland must be included in the plan so that the wild birds will remain along the channel. The channel edges should be soft so that these birds can browse and feed.*
- *Alternative A does not provide for the continued development and enhancement of wildlife at Mission Creek. Without a wetland, the resident population of, and foraging by, herons and egrets would be reduced or eliminated.*
- *Probably more than half the fish species, particularly commercial and sport fish, depend on wetlands for their existence. Wetlands are therefore critical to the City's fishing industry.*

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- *The restoration of the wetlands would have a positive effect on the economy of San Francisco, benefitting the City's fishing industry, the Mission Bay Project, and adjacent housing and hotels.*
- *The port-owned land adjacent to Piers 48 and 50 is the best site for a wetland from a biological standpoint. If the wetland were located there, it should:*
 - Encompass a minimum of 18 acres;*
 - Provide visitors with maximum views and contact with the Bay at both of the northern promontories at the wetland's entrance; and*
 - Include a rocky island close to the entrance for birds preferring that type of environment and a second island further into the wetland that is flatter and grassier.*
- *The wetland must be created in the first phase of the development of Mission Bay.*
- *If the port-owned land cannot be made available in the near future, the wetland should be planned west of Third Street.*

Recreational Facilities

- *Housing and circulation patterns should be considered in determining a recreation-complex location.*
- *Fishing piers and boat concessions should be established in separate locations.*
- *A gym should be added once the resident population at Mission Bay is in place.*
- *Privately operated recreational facilities (e.g., fitness centers) could help public facilities meet the projected recreation demand.*
- *An Olympic-sized pool would be a desirable addition to the City's recreational resources.*

Cultural and Community Facilities

- *Mission Bay should include cultural facilities to serve both the community itself and the City as a whole.*
- *The Planning Commission should commit to providing adequate, centrally located community and cultural facilities at Mission Bay.*
- *The arts are important to the economy of every community in the City. A study of the Mission District, for example, indicates that 70% of the merchants there think that the arts enhance their business and increase customers.*
- *A national poll conducted last year by Lou Harris and Associates found that attendance was up at cultural events in local community facilities that offered affordable entertainment.*
- *Cultural and related facilities should include:*

A maritime museum east of Third Street, next to Piers 48 and 50;

Space for theatres, exhibits, art installations, arts classes, galleries, rehearsal/studio areas, storage/preparatory areas, and workshops;

A neighborhood art center; and

Live-work spaces for artists.

- Facilities should be used for both active participation (i.e., learning the arts) and passive participation (i.e., viewing the arts).
- Cultural facilities should be prominently and centrally situated in an aesthetic environment.
- A task force made up of members of the arts and planning commissions should be designated to study ways of funding cultural facilities.
- Artists should be brought in at the very beginning of the planning process.
- Economic benefits gained by building some residential units in the area east of Third Street would generate public amenity (e.g., open space, cultural facilities) benefits in other locations in the Project Area. This is especially critical in funding expanded cultural resources like the proposed Fort Mason South and/or a museum-arts complex.
- Community and cultural facilities should be constructed in the first phase of Mission Bay development.

Schools and Child Care Facilities

- Child care facilities should be designated and planned for now and developed in Phase One of Mission Bay, not later in the process, to ensure licensable space, sponsor commitment and adequate facilities.
- Child care needs and affordability should be assessed in each subsequent phase.
- An elementary school should be constructed in Phase One and should be designed so that it can be used jointly with child care programs.
- If a school is not constructed, the reserved site should be made available for a child care program or a recreational program.
- A grammar school should be built next to a senior center.
- Recreational buildings should include consideration of licensable space for child care, and, in determining staffing, tot lots and playgrounds should be considered active recreation areas at which supervision is required for at least some part of the day.
- Since child care sites must be adjacent to open space, recreational open space should include uses appropriate for children.
- Payment of an "in lieu" fee should occur at the beginning of the first phase of office construction to provide immediate child care services to employees and residents of Mission Bay and surrounding neighborhoods. Some or all of those fees could be provided to those with low or moderate incomes.
- Plans to address child care must be made in advance of each development phase to determine the mix of new child care facilities versus in-lieu fees to be provided.
- If the Office and Hotel Affordable Child Care Ordinance is revised in the future to apply to other uses, Mission Bay should be made to comply with those amendments.
- Child care facilities developed in Mission Bay should be rent free.

Transportation

- By 2000, the regional roadway and transit capacity serving San Francisco would be saturated. Major infrastructure improvements may be necessary to accommodate transportation demands after 2000.

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- A detailed study of 16th Street, which would be the major east-west access to the project, should be conducted.
- The variation of retaining a CalTrain station at Fourth and Townsend Streets should be stressed (Variant 9); with underground tracks from south of 16th Street, it would be a good start toward completion of a full extension to downtown San Francisco.
- All forms of transportation to the Project Area and through the Project Area must be improved.
- Light rail and other surface transportation should be provided.
- The regional Southern Pacific commute line should be strengthened as a means of public transit. An all-weather station and a tie-in to existing and new MUNI service must be provided.
- The existing quality of rail service to all present and proposed port facilities and to existing rail-served businesses should be preserved and guaranteed.

Hazardous Waste

- The cost of removing toxic wastes from past Santa Fe and Southern Pacific disposal practices should be borne solely by Santa Fe.
- Such costs should not be used as an excuse to revise project plans to increase commercial development.

Sports Facilities

Testimony Favoring Sports Facilities

- A downtown stadium would:
 - Enhance the quality of life and the City's image;*
 - Foster a diverse environment for City residents;*
 - Benefit downtown businesses such as hotels, restaurants and retail stores;*
 - Benefit youth;*
 - Provide a wholesome, inexpensive recreational activity for families and individuals;*
 - Generate employment; and*
 - Increase tourism.*
- Construction of a stadium/arena complex would attract businesses, residential developments, and investment opportunities to areas South of Market and along the southern waterfront.
- Parking and transportation impacts induced by a stadium and arena do not outweigh the benefits of such facilities to the City.
- Even given a worst-case scenario, a ballpark would benefit everyone.
- Maintaining a major league franchise is integral to the City's sense of unity and civic pride. The \$50-100 million that the franchise would generate annually cannot be replaced.

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- *The Planning Commission and Department of City Planning staff should work with Spectacor and the Giants to ensure that the architectural design of the stadium and arena enhances the City's skyline and visual appeal. Noise or lighting impacts from the operation of these facilities should be addressed. A sensitive architectural design would make the stadium and arena more acceptable to voters and to adjacent neighborhoods.*

Testimony Opposing a Stadium

- *A downtown stadium would:*
 - Degrade the quality of life; and*
 - Create environmental problems such as traffic and parking impacts, noise impacts, air quality impacts, and aesthetic impacts.*
- *A downtown stadium would be inconvenient to peninsula residents, and the weather downtown would be only marginally better than that at Candlestick.*
- *The air quality impacts caused by people driving to and from ballgames are a source of concern, particularly as they would affect children in San Francisco.*
- *Resources should be spent on developing cultural facilities and community services rather than on a stadium.*
- *How many times must the public have to reject this thing before the developers stop trying to serve it up again?*

Project Planning and Approval Process

- *The planning process should be opened to the public again, and the public should have further opportunities to participate in this process.*
- *Citizens should have a chance to vote on Mission Bay development.*
- *The City should have a true public participation process for all large-scale developments. This would require:*
 - Creating a citizens advisory committee;*
 - Developing public goals for large-scale developments;*
 - Developing criteria for responding to developers' alternative proposals;*
 - Making data, e.g., on certain City districts, available to the public;*
 - Examining similar developments, processes and costs in other cities/counties; and*
 - Performing cost benefit analyses of all proposed alternatives from a regional development perspective.*

Mission Bay Alternative Selection

- *The basic analysis is complete, and it is now up to the "policy makers" to decide the future of Mission Bay and its surrounding area.*

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- *The Planning Commission and City administration, not Santa Fe Pacific, should determine what should be included in Mission Bay development.*
- *Policies, particularly those on transit, transportation, and housing affordability, should address cumulative impacts of development in the City, not just site-specific issues.*
- *The decision on the Alternatives should be based on housing, transit, traffic, and environmental factors. Employment should not be a factor since Mission Bay would have little effect on employment growth in San Francisco.*
- *The Alternative that is approved should help alleviate problems of housing availability and affordability, transit overcrowding, transportation congestion, and environmental quality.*
- *Alternative B, modified to include more affordable housing, should be selected.*
- *New housing affordability policies and programs should be developed by the City to address the shortfall in affordable housing.*
- *The annual limit on cumulative office development should be continued by the City. This would help mitigate traffic congestion and the jobs/housing imbalance resulting from cumulative development. The City should count the square footage of Mission Bay office development within the existing annual limit of one million square feet per year.*
- *A transit assessment district for the downtown area and vicinity should be established by the City. This would fund transit and transportation infrastructure to accommodate employment growth that occurs after the year 2000.*
- *Mission Bay should benefit the environment by restoring wetlands and vegetation and by improving public transit. The proposed project fails to do this and should not be approved.*
- *The final Mission Bay land use plan and development agreement should:*
 - Emphasize a mix of uses which offer maximum ownership and employment opportunities to San Francisco residents, most especially low- and moderate-income persons;*
 - Emphasize the development of light-industrial, blue-collar service, maritime and neighborhood-serving retail which offer opportunities for employment and ownership for lower income residents;*
 - Provide affirmative incentives to relocate all displaced existing firms within the Project Area or elsewhere in San Francisco;*
 - Undertake economic data base studies and economic issue and needs analysis on a citywide basis to provide the base of information necessary in devising the economic land use plan for Mission Bay and for revitalization plans in lower income and minority neighborhoods;*
 - Deemphasize commercial office land uses, if it doesn't deliver direct economic benefits to meet the needs of lower income and minority residents; and*
 - Facilitate full access to information and full participation by the Community Development Council, its member groups and the community at large in planning and implementation of the Mission Bay Project.*
- *In the final Mission Bay land use plan and development agreement, the developer and the City should mitigate the impacts of the Mission Bay Project on surrounding neighborhood commercial areas by providing resources (including funding and land) to foster economic and business development in lower-income and minority neighborhoods. (For example, this could include employment and training, education, small business assistance, and needs analysis and economic development planning and community services, particularly for children, youth and families).*

Mission Bay Development

- *Development under any alternative should be phased. Housing, infrastructure and open space should be constructed before, or simultaneously with, commercial development.*
- *Cumulative office development in San Francisco should be developed at a pace in keeping with that of housing construction and infrastructure improvements.*

LIST OF PERSONS COMMENTING ON THE MISSION BAY PLAN

Raymond Aker, China Basin Maritime Historical Park Committee
Donna Amador
Barbra Bagot, San Francisco Ballpark Alliance
John Bardis
Pattie Bartlett
Bob Begley, Hotel Council of San Francisco
Mary E. Burns, San Francisco Recreation and Park Department
Assemblyman John Burton, California State Assembly
Rene Cazenave, San Francisco Council of Community Housing Organizations
Arnold Chin
Abby Cohen, Child Care Law Center
Richard Cohn, San Francisco Ballpark Alliance
Brad Curtis
John B. deCastro, Potrero Boosters and Merchants Association
Norman Dudum
Jimmy Estrada
Arthur Feinstein, Golden Gate Audubon Society
Milton Feldstein, Bay Area Air Quality Management District
Jim Firth, Potrero League of Active Neighbors and Mission Bay Clearinghouse
John Flanagan
Leah Forbes, San Francisco Arts Commission
Rebecca Ford, Potrero Boosters and Merchants Association
Dale Freeman
Andrew Gordon, San Francisco Ballpark Alliance
Ruth Gravanis, San Franciscans for Planning Priorities
Robert Isaacson
Walter Johnson, San Francisco Labor Council
David Jones, San Franciscans for Reasonable Growth
Ellen Kernaghan, Potrero Boosters and Merchants Association
Ira Kurlander, San Francisco Tomorrow
Merle Lawrence, Mayor's Office of Child Care Advisory Council

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Toby Levine, Mission Creek Conservancy
Toby Levy, South Park Improvement Association
Dennis MacKenzie
Anthony R. Manning
Robert Marthinsen, Mission Creek Harbor Association, Inc.
Robert M. McGee, South of Market Business Association
Stan McGinnis, Rochester Big & Tall Clothing
Mission Creek Conservancy
Patrick Moreira
Scott W. Morrical, Golden Gate Audubon Society
Richard B. Morten, San Francisco Chamber of Commerce
Richard H. Moss, Potrero Boosters and Merchants Association
Tom Murray, Potrero League of Active Neighbors and the Mission Bay Clearinghouse
Nancy Nederhauser, Potrero League of Active Neighbors
Barbara Petersen
Jim Queen, Community Development Council
Alan Raznick, San Franciscans for Reasonable Growth
Richard Reineccius
Christopher Sabre
San Francisco Tomorrow
Steve Schirle
Steven Schnier
Gary Shawley, Potrero League of Active Neighbors
Bill Sloan
Arden Smith, Potrero Boosters and Merchants Association
Regina Sneed, Mission Bay Clearinghouse
Steven J. Sockolov, Rochester Big & Tall Clothing
James Sullivan
Thomas Thompson, Associated General Contractors of California
Michael Vandeman
Gloria Van Winkle, Potrero Boosters and Merchants Association
Anne Wilson

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T. Staff-Initiated Text Changes for the
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**T. STAFF-INITIATED TEXT
CHANGES FOR THE MISSION
BAY HAZARDS MITIGATION
PROGRAM**

The following staff-initiated revisions are made to Volume One of the Mission Bay Hazards Mitigation Program.

**CHAPTER II. REGULATORY
AUTHORITY AND AGENCY
ACTIONS**

On p. 20, the first two sentences of the first paragraph under "Local" are revised, as follows. (The title of the ordinance, cited in the first part of the first sentence, and the word "and" in the second sentence are already underlined. The underlines beneath these words in the following change therefore do not indicate revisions.)

- San Francisco "Analyzing the Soil for Hazardous Wastes" Ordinance #253-86 Part II, Chapter 10 Public Works Code, Article 20, San Francisco Municipal Code establishes, as of June 27, 1986, and as amended August 2, 1988, a requirement for a hazardous wastes analysis in conjunction with applications for certain building permits. A hazardous wastes analysis consisting of a site history and a soil analysis is required for building permits if more than 50 cubic yards of soil are to be disturbed, and either the site is bayward of the historic high tide line, or in any other area designated by the Director of Public Health (DPH), or an analysis is otherwise required by the Director.

On p. 20, the third sentence of the first paragraph under "Local" is deleted.

The first sentence of the second paragraph under "Local," also on p. 20, is revised to state:

- The required analyses include those for inorganic, persistent and bioaccumulative toxic substances listed in 22 CAC [now CCR] 66699 (20 substances); volatile organic toxic pollutants listed in 40 CFR, Part 122, Appendix D, Table II (28 substances); PCBs; pH (acidity) levels; flammability; cyanides; sulfides; methane and other flammable gases; and any other hazardous wastes designated by the Director of Public Works.

On p. 21, the first through last full sentences in the partial paragraph at the top of the page and the second paragraph are deleted and replaced with the following:

- If, on the other hand, hazardous wastes are detected in the soil samples, a site mitigation report must be prepared by a "qualified person" and implemented by the applicant before the Department of Public Works will act on the building permit application. The site mitigation report will describe any problems posed by the hazardous wastes and explain how the material will be handled in order to minimize threats to public health and safety. As part of report preparation, additional soil sampling might be called for to define the extent of contamination.

The site mitigation report will contain the following information:

- (1) A determination by the qualified person whether the hazardous wastes in the soil pose significant environmental health and safety risks, and if so, detailed measures recommended to mitigate those risks.
- (2) A statement signed by the report preparer certifying that he/she is qualified within the meaning of the law, and that the mitigation measures identified in the report will protect public health and safety.

Persons qualified to prepare site mitigation reports include registered environmental assessors and certified engineers, geologists, and industrial hygienists.

When completed, the site mitigation report will be submitted to the Department of Public Health and the Department of Public Works. Upon receipt of the report and at the applicant's request, the Director of Public Works will issue any permits necessary for the applicant to carry out site mitigation, and cleanup work can proceed accordingly.

To complete the process, the applicant must certify under penalty of perjury that either:

- (1) the qualified person has determined that no hazardous materials are present, that no health threats exist, and no mitigation measures are necessary, or

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- (2) the applicant has performed all mitigation measures recommended, and has verified that mitigation is complete, or
- (3) the applicant has received third-party certification from the appropriate state or federal agency that mitigation is complete.

Certification must also contain a formal statement that the applicant remains responsible for site mitigation and retains any associated liabilities.

Upon receipt of the soil analysis report, the site mitigation report (if necessary), and final certification from the applicant that mitigation either is unnecessary or has been completed, the Director of Public Health will so notify the Director of Public Works in writing. Thereafter, the Director of Public Works will consider the building permit application to be complete and may approve or deny the application.

The following sentence is added to the end of the first paragraph under "Clean-up Levels" on p. 24:

- In some cases, a health risk assessment would assist responsible parties to select an appropriate clean-up level. Refer to Section IV.D of this report.

The following sentence is added to the end of the second paragraph under "Clean-up Levels" on p. 24:

- Again, health risk assessments would assist in these determinations.

CHAPTER IV. ENVIRONMENTAL FATE / RISK ASSESSMENT

On p. 70, the second sentence of the first paragraph under "D. General Procedure for Conducting Specific Risk Assessments" is revised to state:

- For many potential contaminants, a formal risk assessment must be completed before necessary remedial action can be determined.

The following sentence is added after the seventh sentence of that paragraph:

- Risk assessments would be done in

conformance with applicable state and federal guidelines.

On p. 71, the following sentence is added after the first sentence under "Exposed populations":

- Various categories of use are considered at this stage.

CHAPTER V. CONFIRMATION INVESTIGATIONS

Several additions and corrections are made to Table 8 on pp. 80-81. "Beryllium" is corrected to:

- Beryllium

"Flouride" is corrected to:

- Fluoride

The following volatile organic and analytical methods are added after "2-chloroethylvinyl ether" on p. 80:

- chloroform EPA 8240 EPA 8010 & 8020

The following volatile organic and analytical methods are added before "methylene chloride," at the top of the column on p. 81:

- methyl chloride EPA 8240 EPA 8010 & 8020

On p. 81, "1, 1, - trichloroethane," which follows "1, 2 - transdichloroethylene," is corrected, as follows:

- 1, 1, 1 - trichloroethane

The following volatile organic and analytical methods are added after "1, 1, 1 - trichloroethane":

- 1, 1, 2 - tri-chloroethane EPA 8240 EPA 8010 & 8020

A sentence is added to the end of the last listed item on p. 85. This item states in its entirety:

- - Sampling and analyzing groundwater from each monitoring well to assess shallow groundwater quality. Analyses will be done for the same parameters measured in the soil samples pursuant to San Francisco Ordinance No. 253-86.

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A sentence is added to the end of the sixth listed item on p. 87. This item states in its entirety:

- - Collecting and analyzing samples from the perimeter wells to assess soil and groundwater quality at the site boundaries. Analyses will be the same as the tests required for the soil samples, above.

The first sentence on p. 92 is revised to state:

- Samples will be analyzed for the hazardous substances listed in the City's hazardous materials analysis ordinance (Ordinance 253-86), with the exception of volatile organic compounds (VOCs) (EPA Method 8240/8010/8020).

The last sentence of the second paragraph under "Sampling for Soil and Water Physical and Chemical Properties," which begins on p. 96 and continues on p. 97, is deleted.

In Table 9 on p. 102, "Pentachlorophenol" is corrected to:

- **Pentachlorophenol**

The last sentence of the first paragraph on p. 103 is revised to state:

- Detection limits range as low as 5 ug/Kg of soil (5 ppb by weight).

On p. 110, the last sentence of the second paragraph is revised to state:

- The U.S. EPA, the RWQCB, and the U.S. Army Corps of Engineers in 1987 proposed new test procedures that no longer include elutriate tests.

In the third paragraph on p. 110, the first and second sentences are revised and the last sentence is deleted. As revised, this paragraph states:

- The procedures proposed a tiered approach that includes bulk sediment analyses for metals, pesticides, and a specific list of aromatic organic contaminants. The interpretation of this data involves a comparison of the dredged material with the existing sediments at the disposal site; disposal will generally be permitted if "markedly different" conditions do not exist between the dredged materials and the disposal site. If such differences do occur, bioassay and bioaccumulation tests on the dredged materials would be required.

The following new paragraphs are added after the third paragraph on p. 110:

- Although these procedures were not adopted in a three-agency agreement, the U.S. Army Corps of Engineers has informally applied them as part of its analysis of permit applications for proposed dredging projects in San Francisco Bay. Similarly, the Regional Water Quality Control Board (RWQCB), on January 20, 1988, approved in concept the tiered-testing approach for determining the suitability of dredged sediments for in-Bay disposal. The understanding has also been adhered to informally by the Corps and EPA.

Despite use of these procedures, in-Bay disposal of dredged materials at the Alcatraz site remains highly controversial. Resource agencies such as the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the National Marine Fisheries Service generally object to issuance of permits for such disposal. Partly in response to these concerns, the RWQCB on June 21, 1989 adopted a proposed amendment to the San Francisco Bay Region Water Quality Control Plan which would limit the type and quantity of dredged material that could be disposed of at Alcatraz. The amendment is scheduled to become effective December 31, 1991, pending approval by the State Water Resources Control Board.

A misspelling is corrected in the next-to-last sentence of the last paragraph on p. 110 and a new sentence is added after this sentence, as follows:

- These contaminants include a full spectrum of metals, pesticides, PCBs, phthalates, and other miscellaneous organic and inorganic compounds.^{13/} A bioassay test involving use of bivalve larvae would be required by the Regional Water Quality Control Board as part of the initial screening process.

CHAPTER VI. REMEDIAL ACTION

The following is added after the first sentence in the first paragraph under "C. Level of Cleanup Required" on p. 115:

- The potential threat to the environment is one of the factors considered in the formal health risk assessment (see Section IV.D) that helps determine the need for cleanup.

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The third sentence of the third paragraph under this heading, which continues on p. 116, is revised to state:

- This determination, made during the risk assessment, is site-specific and even non-hazardous wastes can require further cleanup.

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